4.10 Science Data Archive and Distribution

This section describes the Science Data Archive and Distribution tools used by DAAC operators.

The Data Server Subsystem (DSS) has the responsibility for storing earth science and related data in a persistent fashion, providing search and retrieval access to this data, and supporting the administration of the data, hardware devices, and software products. As part of its retrieval function, the subsystem also provides for distribution of data electronically or on physical media.

The ECS Data Server Operator GUIs provide normal operational control and insight into science data server, storage management, and data distribution subsystem operations. These views into the system are managed by means of three operational tools: the Science Data Server GUI, the Storage Management GUI, and the Data Distribution GUI, respectively.

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4.10.1 Science Data Server

The Science Data Server Operator GUI provides the operator two major functions, the management of Earth Science Data Types and the management of all types of requests the Science Data Server Operator is involved with. Further details on these two functions are given in Table 4.10.1-1.

Table 4.10.1-1. Common ECS Operator Functions Performed with the Science Data Server Operator GUI

Operating Function	GUI	Description	When and Why to Use
Manage Science Data Server Earth Science Data Types (ESDTs)	Data Types Tab	Allows operators to manage the ESDTs offered by the Science Data Server	As needed, to manage data type descriptor information and add and update ESDTs
Manage Data Server System Requests	System Requests Tab	Allows operators to manage all the requests within each data server component	As required, to manage requests in each data server component

4.10.1.1 Quick Start Using the Science Data Server

To invoke the ECS Science Data Server GUI, the user types the following command line:

>EcDsSdSrvGuiStart <**mode**>

<**mode**> is the ECS Mode for the execution, e.g., OPS, TS1.

This command will bring up the GUI with the main screen appearing. The user can then initiate the actions described in the following section.

4.10.1.2 Science Data Server Main Screen

The ECS Science Data Server operator GUI, shown in Figure 4.10.1-1, has two tabs that provide access to each one of the components' screens.

- The Earth Science Data Type Manager is accessed through the **Data Types** tab

- The System Request Manager is accessed through the **System Request** tab.

Figure 4.10.1-1. Science Data Server Operator GUI Shown with Default Data Types Tab

The operator can select from the menu bar items at the top of the Science Data Server Operator window for getting help and activating less-frequently used functions. The menu bar capability is available on all Science Data Server Operator GUI screens. The following menus are available:

- **File** - which includes the following item:

    - **Exit** (Ctrl-Q) - Exit application (graceful exit).

- **View** - functionality has not been determined as of this time (TBS).

- **Options** - This menu includes the *System Settings* item that opens the Server Polling Options window. Polling of the data server can be switched On/Off and the SdSrv Polling rate can be adjusted through this window shown in Figure 4.10.1-2.

- **Help** - which provides context sensitive help.
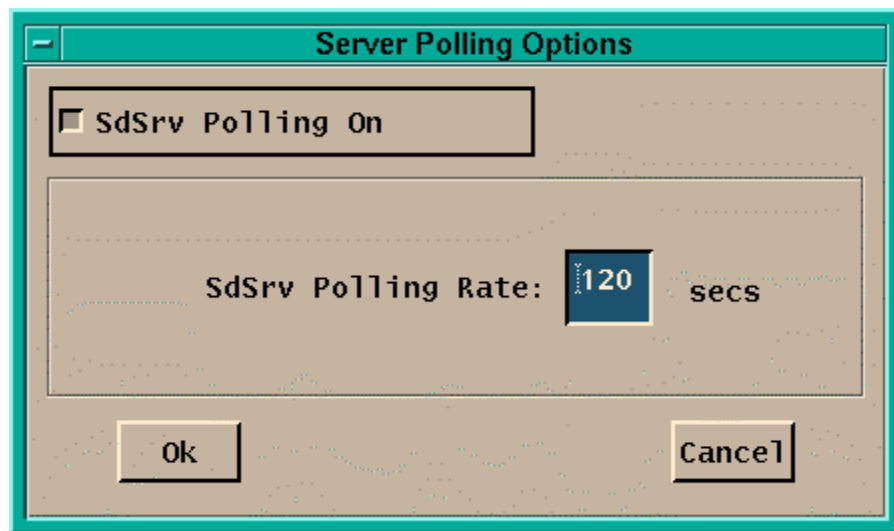
Figure 4.10.1-2.   Science Data Server - Server Polling Options

Table 4.10.1-2 describes the information fields on the Server Polling Options screen.

Table 4.10.1-2.   Science Data Server - Server Polling Field Description

Field Name	Data Type	Size	Entry	Description
Polling Rate	integer	4 digits	Optional	Specify the rate at which the Science Data Server Operator GUI is updated with data coming from the Data Server. The polling rate default is 120 seconds.

4.10.1.2.1 Data Types Tab

The Data Types Tab is the default screen of the Science Data Server Operator GUI shown in Figure 4.10.1-1. This window provides operations personnel at the DAAC the capability to view descriptor information, add new ESDTs and update ESDTs. A list of currently installed ESDTs is shown along with a version number and a brief description of the structure for an ESDT. Additional information that describes the structure, contents, and services that each existing ESDT provides can be viewed by selecting the data type and clicking on the *View* button.

Table 4.10.1-3 describes the Science Data Server Operator - Data Types fields.

Table 4.10.1-3. Science Data Server Operator - Data Types Field Description

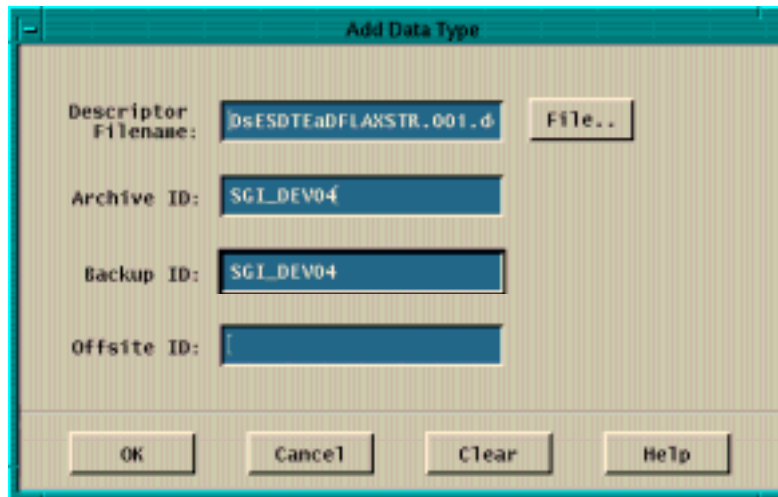| Field Name	Data Type	Size	Entry	Description
Data Type ID	character	8	System generated	Uniquely identifies the specific type of ESDT.
Name	Character	25	System generated	Name of ESDT.
Version	Integer	3	System generated	Version number of ESDT, assigned starting at 1.
Description	Character	255	System generated	Includes structure and services available for an ESDT.
Find	Character	255	Optional	This functionality is provided in order to help the user browsing very long ESDT lists.

In addition, the following buttons are provided:

- **View** displays ESDT descriptor information (read-only) and its associated dynamic data link library (DLL) filename. Descriptor information consists of groups, objects, and keywords that define an ESDTs metadata, advertised services, subscribable events, data dictionary information, validation criteria, and science parameters. Descriptor information is necessary for the Science Data Server to properly configure itself to perform services related to an ESDT. A DLL is an executable library that is loaded dynamically when needed to fulfill ESDT services. The Science Data Server - Descriptor Information Dialog (see Figure 4.10.1-3 below) provides the following buttons:

  - **Close** exits the dialog without performing any operations.

  - **Help** displays on-line help information.
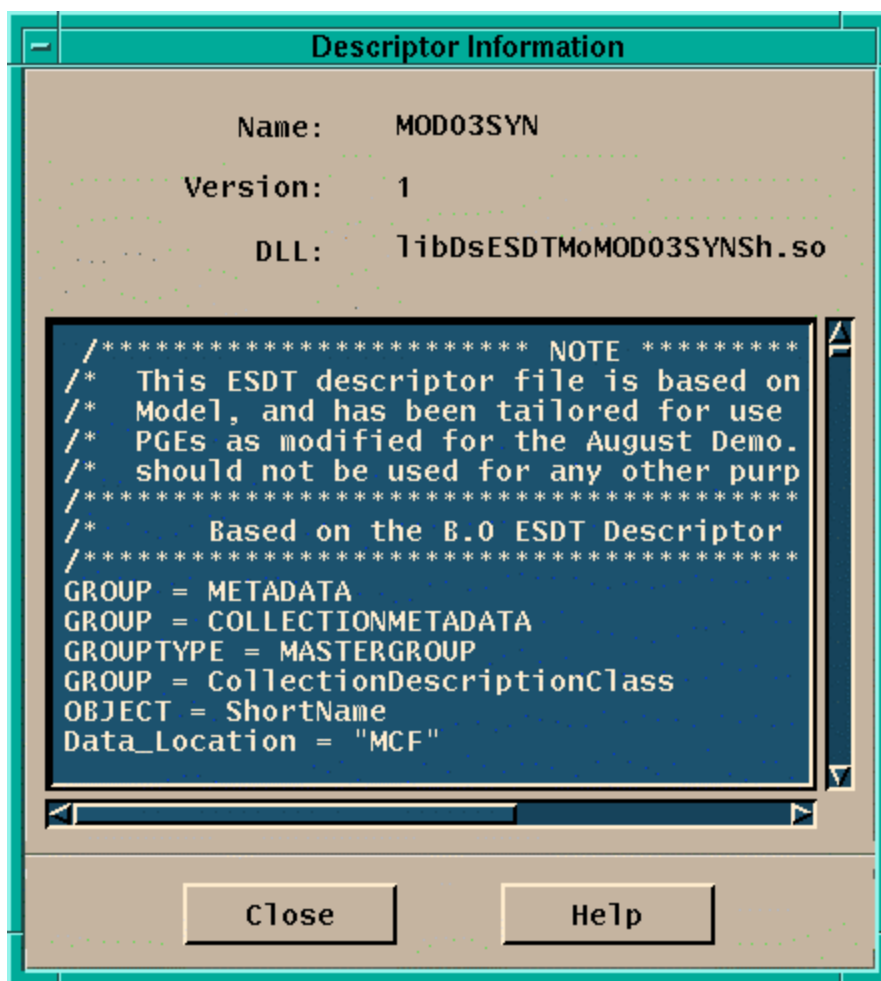
Figure 4.10.1-3.   Science Data Server -   Descriptor Information Dialog

- **Add** opens the Data Type Dialog (see Figure 4.10.1-4) which is used to add a new ESDT to the existing installed list of data types based upon input information. The SDSRV GUI has the capability to install multiple ESDTs. Click on the **File…** button to display a list of descriptor filenames to choose from instead of typing them in. Multiple descriptor files can be selected. Click the **OK** button to add the data type. If no error messages appear, then the operation has been successfully completed. Click the **Cancel** button to close the dialog without performing an operation. Click the **Clear** button to start all over again the process of filling in new information. Click the **Help** button to display on-line help information.

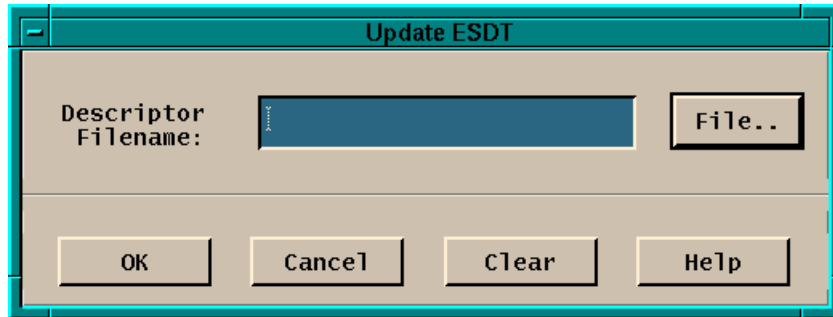*Figure 4.10.1-4. Science Data Server - Add Data Type Dialog*

Table 4.10-4 describes the Science Data Server - Add Data Type fields.

Table 4.10.1-4. Science Data Server - Add Data Type Field Description

Field Name	Data Type	Size	Entry	Description
Descriptor Filename	Character string	25	required	Name of an ASCII file containing the ESDT descriptor file.
Archive ID	Character string	20	required	Handle that will be used to find the ESDT in the Data Server Archive
Backup ID	character string	20	optional	Handle that will be used to find the ESDT in the Backup Data Server Archive
Offsite ID	character string	20	optional	Handle to a backup volume that will store ESDT related information at DAAC other than the original one.

- **Update** opens the Update ESDT Dialog (see Figure 4.10.1-5) which is used to update a ESDT to the installed list of data types based upon input information. The SDSRV GUI provides the capability to update multiple ESDTs at one time. The Science Data Server needs to be running in Maintenance mode to accept this operation. Click on the **File...** button to display a list of descriptor filenames to choose from instead of typing them in. Multiple descriptor files can be selected. Click the **OK** button to update the data type. If no error messages appear, then the operation has been successfully completed. Click the **Cancel** button to close the dialog without performing an operation. Click the **Clear** button to start all over again the process of filling in new information. Click the **Help** button to display on-line help information.

Figure 4.10.1-5. Science Data Server - Update Data Type Dialog

Table 4.10.1-5 describes the Science Data Server - Update Data Type fields.

Table 4.10.1-5. Science Data Server - Update Data Type Field Description

Field Name	Data Type	Size	Entry	Description
Descriptor Filename	character string	255	required	Name of an ASCII file containing the ESDT descriptor file.

- **Refresh/Reconnect** updates the data type information screen with current information.

- **Operator Messages** provides the functionality that displays informational and error messages to the user.

4.10.1.2.2 System Requests Tab

Clicking the System Requests tab will bring up the System Management Requests window (see Figure 4.10.1-6). This window provides operations personnel at the DAAC the capability to monitor requests the Science Data Server is working with. All requests within the Science Data Server are displayed. The columns of the list can be sorted by positioning the cursor and clicking on the appropriate column of interest. The requests can be filtered by positioning the cursor and clicking on the **Filter** button and entering the attributes on which to filter.

Figure 4.10.1-6.   System Management Requests Window

Table 4.10.1-6 describes the System Management Requests Window fields.

Table 4.10.1-6. System Management Requests Field Description

Field Name	Data Type	Size	Entry	Description
Request ID	character	255	system generated	Unique identifier for the request.
Requester	variable character	100	system generated	Identifies the user that submitted the request.
Service Request	character	25	system generated	Types of requests handled are Insert, Acquire, and Delete
Status	character	20	system generated	Possible states are Submitted, Queued, Executing, Failed_Retryable, Failed_Fatal, Failed_Unknown and Done
Priority	variable character	20	system generated	Priority of the data server system requests, i.e., Express, Very High, High, Normal(default), Low.
Find	character	255	optional	If the list is too long, this field can be used to search for an entry

In addition, the following buttons are provided:

- **Change Priority:** changes the priority of each selected request through a pulldown menu. Possible values are: Express, Very High, High, Normal (default) and Low.

- **Apply** allows the operator to commit to the priority change selected through the change priority button.

- **Filter…** (see Figure 4.10.1-7) brings up the System Management Filter Requests dialog which provides a selection of attributes on which to filter for the list of System-wide requests. Filter on system management requests by entering the desired information, then clicking on the Request ID or Requester radio button for the desired attribute. Return to the original list of requests by clicking on the All Requests radio button. Click on other filters associated with State and Priority by clicking on the toggle button. Filter on every attribute associated with a category by clicking the **All** button or clear a category of filters by clicking on the **None** button.

- **Memory State:** it monitors the current memory state of the data server in regards to values that are set on the server side through configuration parameters. Possible values are: Normal(green color), Low(yellow), Very Low(red). This functionality will only be visible if the server's DSSMEMORYMONITORDISABLEFLAG is off.

Figure 4.10.1-7. System Management Filter Requests Dialog

Table 4.10.1-7 describes the System Management Filter Requests Dialog fields.

Table 4.10.1-7. System Management Filter Requests Field Description

Field Name	Data Type	Size	Entry	Description
Request ID	character	255	system generated	Unique identifier for the request.
Requester	variable character	100	system generated	Identifies the user that submitted the request.

In addition, the following buttons are provided:

- **OK** implements filter criteria, and the dialog closes.

- **Apply** implements filter criteria, and the dialog remains open for additional filtering.

- **Cancel** closes the dialog without saving

- **Help** displays on-line help information.

- Back to the System Requests tab description (figure 4.10.1-5), **Operator Messages** provides informational and error messages to the user.

- **Refresh** causes the Data Server to be polled for an update on Requests.

4.10.1.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series . The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

4.10.1.3.1 Interfaces and Data Types

Table 4.10.1-8 lists the supporting products that this tool depends upon in order to function properly.

Table 4.10.1-8. Interface Protocols

Product Dependency	Protocols Used	Comments
SDSRV and all clients	DCE	via client libraries
SDSRV GUIs	X-11	via client libraries

4.10.1.4 Databases

The Science Data Server Operator GUI does not include the direct managing of any database. It has an interface with the Science Data Server Data Base: however this interface is based on a simple parameter passing function. For further information of the Science Data Server Data Base refer to 311-CD-107-005, *Science Data Server Database Design and Schema Specifications for the ECS Project*.

4.10.1.5 Special Constraints

The Science Data Server Operator GUI runs only if the Science Data Server is running in the background. Note also that at the moment the Science Data Server GUI is started through a command line that specifies the configuration file that is used to initialize the GUI Application.

4.10.1.6 Outputs

There is no processing associated with the operation of this GUI. The information provided to the operator are retrieved from the Data Server Database described in section 4.10.1.4 and displayed through the screens discussed in section 4.10.1.2 and the related sub-sections.

4.10.1.7 Event and Error Messages

Both event and error messages are listed in Appendix A.

4.10.1.8 Reports

No reports are produced by this tool.

4.10.2   Storage Management Control

This Storage Management Control tool enables operations to manage various data storage functions. These functions include the capability to:

- set and modify configurations of various Server Types (e.g., 8mm tape, Archive Server, D3 tape),

- manage data location within the archive and on disk,

- configure stacker slots,

- display storage events which possibly require operator actions,

- and view backup/restore failures with the ability to restart a backup/restore operation.

The tool is used to perform the following operator functions listed in Table 4.10.2-1.

Table 4.10.2-1.   Common ECS Operator Functions Performed with This Tool

Operating Function	Command/Script or GUI	Description	When and Why to Use
Configure Server Devices	Storage Config Tab	Allows operators to organize and configure various Server Devices and manage data flow in and out of various archives.	As needed to add, delete, or modify the configuration of a set of Servers or a Server Device.
View the current cache statistics for the Pull Monitor cache.	Cache Stats. Tab	Allows the operator to view the Pull Monitor cache and view the statistics on its use. Operator can delete expired files.	Used when warning is displayed in the message area informing the operator the cache is getting too full.
Search Event Log	Storage Events Tab	Allows operators to find events from selected parameters	As needed to locate events.
Restart Backup Archive data files.	Menu "Backup"	Allows operator to restart backup operations.	As needed to restart data files as a backup.
Schedule Resources	Resource Schedule Tab	Allows operator to schedule resource availability for storage	As needed to make available or take off-line specific resources

4.10.2.1 Quick Start Using Storage Management Control

To invoke the Storage Management Control tool, the following command must be typed at the command line prompt:

>EcDsStmgtGui ConfigFile <filename> **ecs_mode** <mode>

where:

<filename> is the configuration file name identification to be used by the tool. If [filename] is not specified, the default is the configuration file in the cfg directory.

<mode> is the system mode of operation, e.g., OPS, TS1. If <mode> is not specified, the default is the OPS mode.

4.10.2.2 The Storage Management Control Operator Main Screen

The Storage Management Control Main screen shown in Figure 4.10.2-1 is operated from four tabs:

1. Storage Configuration tab,

2. Resource Schedule tab,

3. Cache Stats tab and

4. Storage Events tab.

The operator can select from the menu bar items at the top of the window for each component the following menu functions:

- **File** contains the exit command to close application

- **Options** allows operator to set the polling rate for the event log for the current execution of the application.

- **Backup** allows operator to set up data files as a backup at the operator site and at operator off-sites, to view backup files and to restart backup files.

- **Help** provides context sensitive help to the operator.

  Further details on the functionality associated with these menu items see Section 4.2.10.2.2.5. All of the tab screens also have an Operator Message box which displays error conditions, as shown in Figure 4.10.2-1.

4.10.2.2.1 Storage Configuration Tab

This tab displays Server identification information, and allows the operator to view and control the Server configuration including adding, deleting, and modifying device configurations as well as data file paths through Volume Group control for the Archive Servers. This includes servers to distribute data as well as archive data. Each specific Server can be configured by activating a separate device screen and inserting a set of parameters for that type of Server.
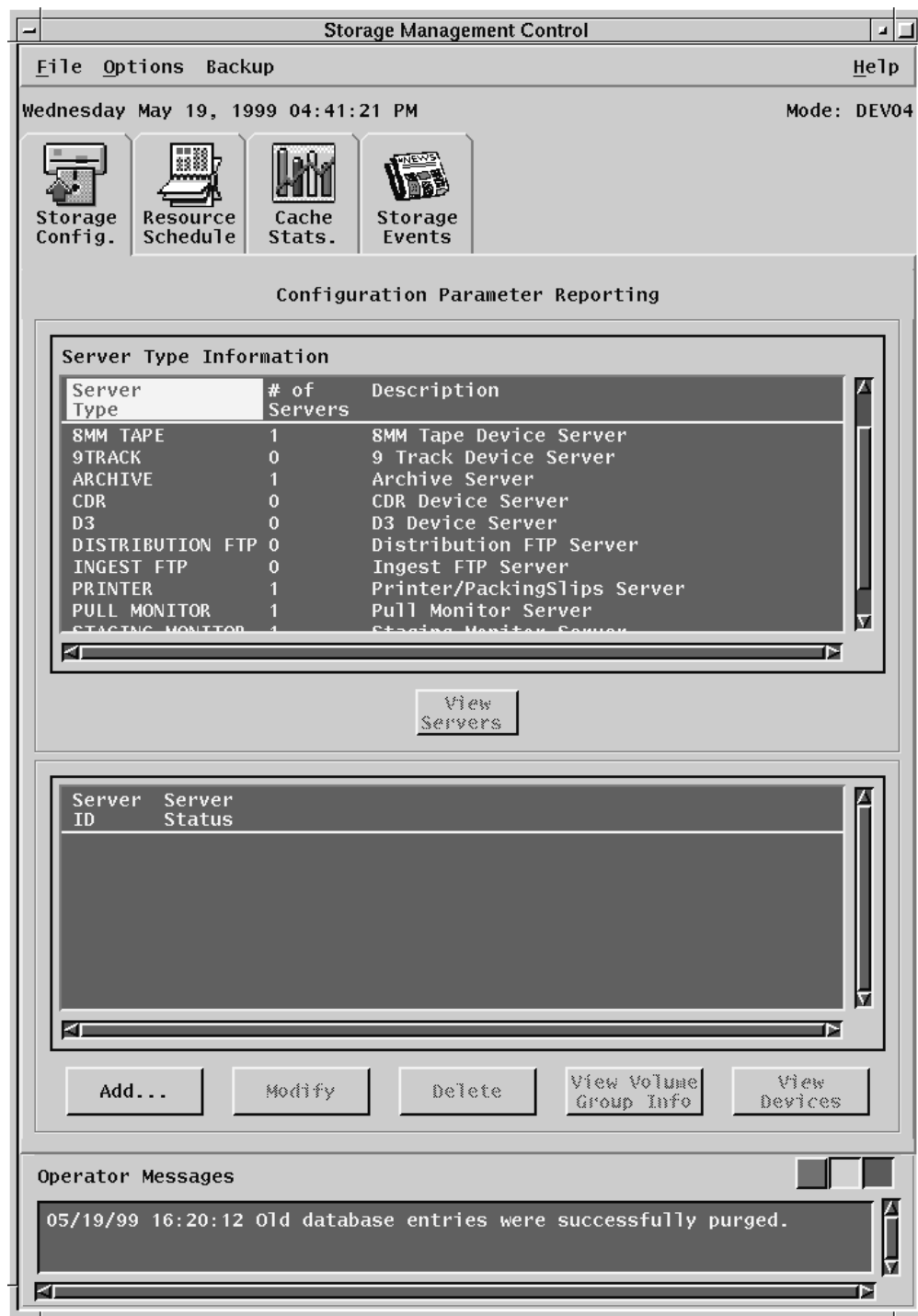
Figure 4.10.2-1.   Storage Management Control Storage Configuration Tab

Table 4.10.2-2 describes the Server Type Information fields.

Table 4.10.2-2. Server Type Information Field Description

Field Name	Data Type	Size	Entry	Description
Server Type	character	20	preloaded	Type of media for storage and distribution.
# of Servers	integer	N/A	calculated	Number of Servers for this media.
Description	character	100	preloaded	Brief description of Server Type.
Server ID	character	50	required	Name assigned to a specific Server.
Server Status	integer	0 or 1	system generated	Provides "ON-LINE" or "OFF-LINE" status of the specific server.

Note: Figure 4.10.2-1 does not show the last Server type (i.e., Pull Monitor) that can be configured through this tab.

Selecting a Server Type and then clicking on the **View Server** button will bring up information in the Specific Server Information box, whose fields are described in Table 4.10.2-2.

The Storage Configuration Tab includes several buttons. These buttons are: **View Servers**, **Add…**, **Modify**, **Delete**, **View Volume Group Info**, and **View Devices**. The functionality associated with these buttons is discussed below along with the pop-up windows that are displayed when the buttons are depressed.

Add… Allows the operator to add a specific server to the configuration. A screen appears as shown in Figure 4.10.2-2, and allows the operator to configure the server with the parameters shown. Different Server Types have different screens to address the particular configuration of that Server Type.

Figure 4.10.2-2. Add Archive Server Popup

Table 4.10.2-3 describes the fields on the Add Archive Server Pop-up.

Table 4.10.2-3. Specific Server Information Field Description

Field Name	Data Type	Size	Entry	Description
Pull FTP Host	character	unlimited	required	Name of the Pull Volume FTP host
Pull FTP User Name	character	unlimited	required	Name of the Pull FTP User
Pull FTP Password	character	unlimited	required	Password required to access the Pull FTP
Temp. File Directory	character	unlimited	required	Absolute Path to the Temporary File Directory
Volume Group Name	character	unlimited	required	Name of the Volume Group
Volume Group Path	character	unlimited	required	Absolute Path of the Volume Group
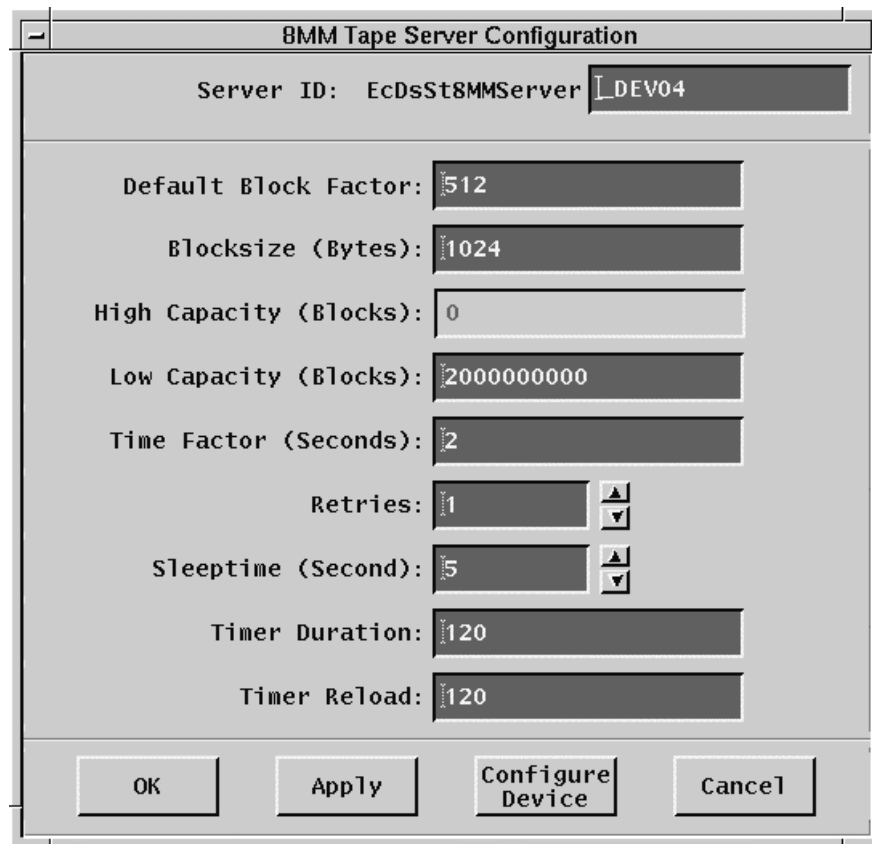
This screen shows the configuration of a Specific Server (in this case the Archive Server). The Server ID is shown at the top. After entries are made in these parameter fields additional control is provided with the following buttons:

- **OK -** Parameter information is saved into a database and the display is closed out.

- **Apply -** Parameter information is saved into a database.

- **Cancel -** Closes the display without saving information to the database.

Note these same above buttons have the same functions in other Server Type configuration displays, so their description will not be repeated for each screen of the same nature (refer to Figures 4.10.2-3, -4, -5, -6, and -7).

Other possible server configuration screens are shown in Figures 4.10.2-3, -4, -5, -6 and -7 for the following server types: 8 MM Tape Server, Distribution FTP Server, Pull Monitor Server, Staging Monitor Server, Printer Server. Other servers not discussed are: CDR Device Server, D3 Device Server, and Ingest FTP.

- **8MM Tape Server Configuration**. Figure 4.10.2-3 shows the 8MM Tape Server screen and Table 4.10.2-4 describes the field information related to this pop-up.

Figure 4.10.2-3. 8MM Tape Server Configuration Popup

Table 4.10.2-4 describes the fields on the 8MM Tape Server Configuration Popup.

Table 4.10.2-4. 8MM Tape Server Configuration Information Field Description (1 of 2)

Field Name	Data Type	Size	Entry	Description
Default Block Factor	integer	N/A	required	Size of buffer used in tar command.
Block Size	integer	N/A	required	The number of bytes each block contains.
High Capacity	integer	N/A	required	Highest amount of space available for utilization.
Low Capacity	integer	N/A	required	Lowest amount of space available for utilization.

Field Name	Data Type	Size	Entry	Description
Time Factor	float	N/A	required	When multiplied by bytes gives a estimated transfer rate.
Retries	integer	N/A	required	Number of retries if the request fails.
Sleeptime	integer	N/A	required	Duration in minutes to wait between retries.
Timer Duration	integer	N/A	required	Duration of timer.
Timer Reload	Integer	N/A	required	Number of reloads.

Note that an additional button is present on the 8MM Tape Server configuration- **the Configure Device** button. Functionality provided by this button is explained below (see Figure 4.10.2-12) where the way the operator is allowed to specifically configure a device will be described.

- **Distribution FTP Server Configuration**. Figure 4.10.2-4 shows the Distribution FTP configuration and Table 4.10.2-5 describes the field information related to this pop-up.

Figure 4.10.2-4. Distribution FTP Server Configuration Pop-up

Table 4.10.2-5. Distribution FTP Server Configuration Information Field Description

Field Name	Data Type	Size	Entry	Description
Capacity	integer	N/A	required	Total amount of space available for utilization.
Block size	integer	N/A	required	The number of bytes each block contains.
EC_KFTP Command	character	255	required	FTP Command server uses.
Pull FTP Host	character	20	required	Name of host where server runs
Pull FTP User Name	character	8	required	User name for account
Pull FTP Password	character	8	required	Password for Distribution FTP account
Data list	character	50	required	Data to FTP
Retries	integer	N/A	required	Number of retries if request fails.
Sleeptime	Integer	N/A	required	Duration in minutes to wait between retries.

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- **Pull Monitor Server Configuration**. Figure 4.10.2-5 shows the Pull Monitor Server Configuration and Table 4.10.2-6 describes the field information related to this Pop-up.

Figure 4.10.2-5.   Pull Monitor Server Configuration Pop-up

Table 4.10.2-6. Pull Monitor Server Configuration Information Field Description

Field Name	Data Type	Size	Entry	Description
Original Cache Space	integer	N/A	required	Amount of space allocated to the Pull Monitor in block size increments.
Available Cache Space	integer	N/A	required	Remaining disk space available in the Pull Monitor cache.
Block Size	integer	N/A	required	Specifies the byte size of the blocks of the Pull Monitor device.
Expired File Confirm Delete	boolean	N/A	required	Have the operator confirm the deletion of expired files.
Percent When Full	float	N/A	required	The percentage of disk space when the Pull Monitor is considered full.
Expiration Threshold	float	N/A	required	Threshold when file expires.
FTP Notify Timer Duration	float	N/A	required	Interval of time used to check pull area for expired files.
Fault Disk Level	float	N/A	required	Highest allowable percentage usage of space allocated.
Warning Disk Level	float	N/A	required	Percentage of allocated space where operator will receive a warning message to clean-up expired files.
Root Path	character	255	required	Path to the device.
FTP Notify Filename	character	255	required	File that contains the list of expired files.
Directory	character	50	required	Created by Pull Monitor when files are linked and FTP'ed.

- **Staging Monitor Server Configuration**. Figure 4.10.2-6 shows the Staging Monitor Server Configuration screen and Table 4.10.2-7 describes the field information related to this pop-up.

Figure 4.10.2-6. Staging Monitor Server Configuration Popup

Table 4.10.2-7 describes the fields on the Staging Monitor Server Configuration Popup.

Table 4.10.2-7. Staging Monitor Server Configuration Information Field Description

Field Name	Data Type	Size	Entry	Description
Total Space	integer	N/A	required	Total amount of space allocated to the Staging Monitor in block size increments.
Cache Space	integer	N/A	required	Amount of read-only cache space available on disk.
User Staging	integer	N/A	system generated	Amount of space allocated to the staging disk. Calculated as the difference between total space and cache space.
Block Size	integer	N/A	required	Specifies the byte size of the blocks of the staging monitor device.
Cache ID	character	N/A	required	Cache identifier
Pull expiration time	integer	N/A	required	Maximum number of hours allowed to the data requestor for pulling files.
Path Length	integer	N/A	required	Length of UNIX file path/file name used in system call.
Max Command Line	integer	N/A	required	Maximum length of UNIX file path/filename.
Root Path	character	255	required	Path to the device.

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- **Printer Server** is the one more Server Type for which a screen appears when the operator clicks on the **Add...** on the Storage Configuration Tab. The pop-up window is shown in Figure 4.10.2-7 while the definition of the parameters in that screen is provided in Table 4.10.2-8.

Figure 4.10.2-7.   Printer Server Configuration Popup

Table 4.10.2-8 describes the fields on the Printer Server Configuration Popup.

Table 4.10.2-8.   Printer Server Configuration Information Field Description

Field Name	Data Type	Size	Entry	Description
Number of columns	integer	N/A	required	Number of columns in each printed page.
Number of Rows	integer	N/A	required	Number of rows in each printed page
Packing Slips	integer	N/A	required	Number of copies to print.
Print Queue	character	N/A	required	Name of the Queue printer
Time Factor	integer	N/A	required	No functionality is presently associated with this field.

Back to the Storage Configuration Tab description (Figure 4.10.2-1), the **Modify** button allows the operator to modify the configuration of the server highlighted in the Specific Server

Information box. The pop-up screens appearing when the operator clicks on the **Modify** are the same as the screens that pop-up when the "Add …" button is clicked on.

Delete allows the operator to delete a specific server from Storage Configuration.

The **View Volume Group Info** button is always grayed-out except for when the Specific Server highlighted in the Specific Server Information box is related to a Volume Group. This button brings up a screen as shown in Figure 4.10.2-8 to view Volume Group Information. Volume Group management control is provided with this display.
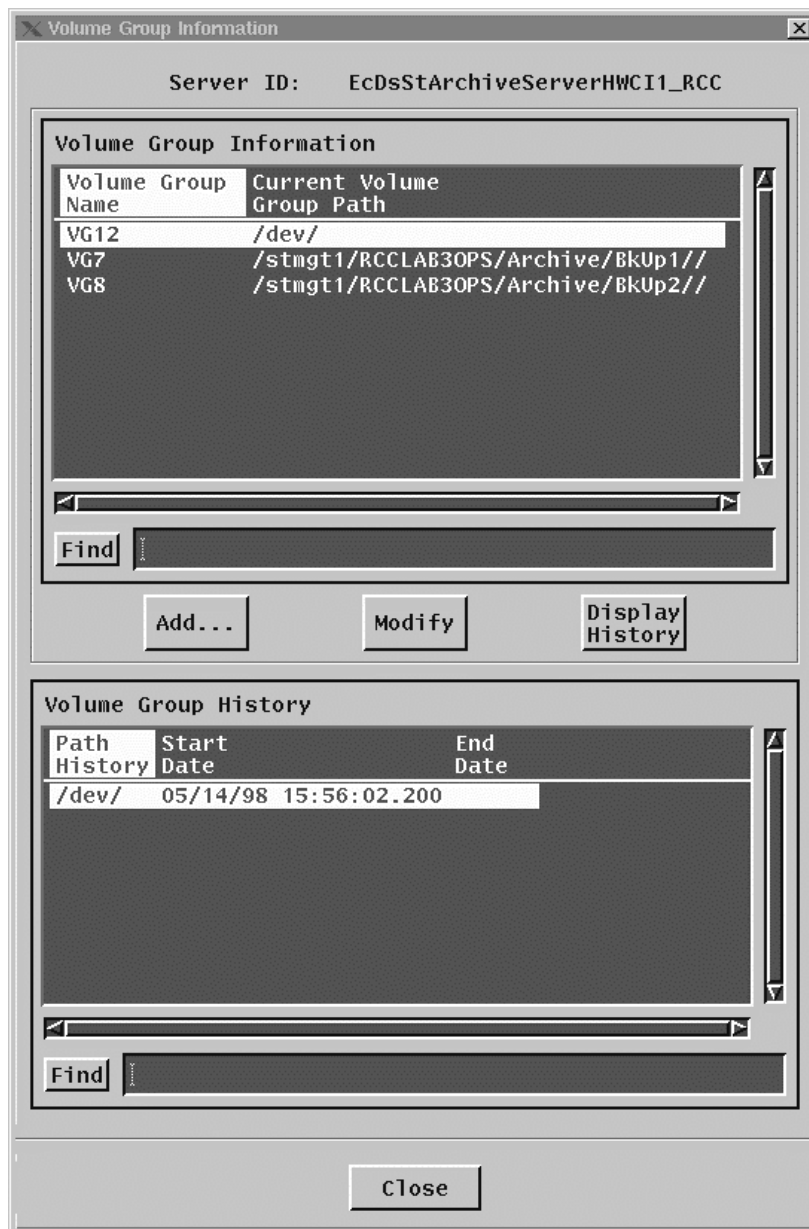
Figure 4.10.2-8.   Volume Group Information Pop-up

The fields for the Volume Group Information Popup are defined in Table 4.10.2-9.

Table 4.10.2-9.   Volume Group Information Field Description

Field Name	Data Type	Size	Entry	Description
Volume Group Name	character	6	required	The operator gives a name to associate a volume of data with a particular Group Path.
Current Volume Group Path	character	255	required	This entry identifies a path link for a given set of data.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Volume Group Name field
Path History	character	255	system generated	Group Path as in the Current Volume Group Path entry of the Volume Group Information box.
Start Date	character	21	system generated	Start date and time of current path.
End Date	character	21	system generated	End date and time of current path.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Path History field

The following buttons provide configuration over the Volume Groups:

Add...   Allows the operator to add a Volume Group through the pop-up window shown in Figure 4.10.2-9. The parameters are described in Table 4.10.2-10.
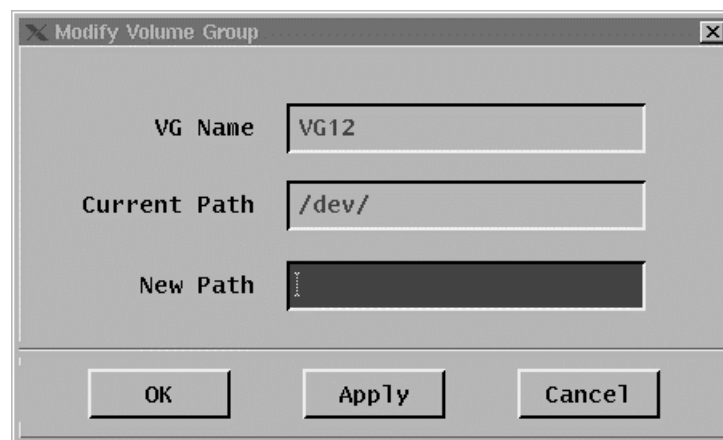

Figure 4.10.2-9.   Add Volume Group Pop-up

Table 4.10.2-10 describes the fields on the Add Volume Group Popup.

Table 4.10.2-10.   Add Volume Group Field Description

Field Name	Data Type	Size	Entry	Description
Server ID	character	unlimited	system defined	Server ID where the Volume Group is going to be added
Volume Group Name	character	6	required	The operator gives a name to associate a volume of data with a particular Group Path.
Volume Group Path	character	unlimited	required	The absolute path of the new volume group.

Modify Allows the operator to modify an existing Volume Group – see Figure 4.10.2-10. The fields of this pop-up window are described in Table 4.2.10-11.

Figure 4.10.2-10.   Modify Volume Group Popup

Table 4.10.2-11 describes the fields on the Modify Volume Group Popup.

Table 4.10.2-11.   Add Volume Group Field Description

Field Name	Data Type	Size	Entry	Description
Volume Group Name	character	6	required	Name of the Volume Group whose path needs to be changed
Current Path	character	unlimited	system defined	The old absolute path for the Volume group that needs to be changed
New Path	character	unlimited	required	The absolute path of the new volume group.

The **Display History** button displays the Volume Group History box as shown at the bottom of the Volume Group Information Figure (4.10.2-8). Related fields are described in Table 4.10.2-9.

Back to the description of the Storage Configuration tab, **View Devices** allows the operator to view and configure a list of devices which correspond to the Specific Server ID. This option is available only to those Servers which have Devices which are: 3490/3490, 8MM Tape, 9 Track, and D3. Clicking on this button displays a screen as shown in Figure 4.10.2-11.
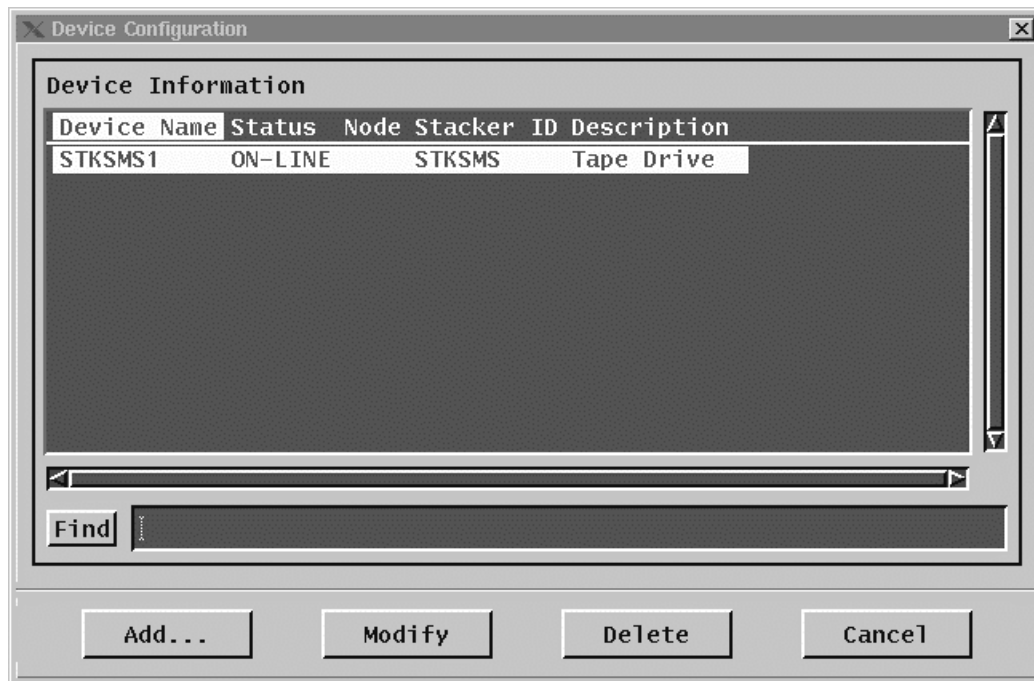
Figure 4.10.2-11.   Device Configuration Pop-up

Table 4.10.2-12 describes the Device Configuration display fields.

Table 4.10.2-12.   Device Configuration Field Description

Field Name	Data Type	Size	Entry	Description
Device Name	character	20	required	Operator inserted name of a Device associated with a Server ID.
Status	integer	0 or 1	system generated	System gives status of the Device as "OFF-LINE" or "ON-LINE".
Node	character	20	system generated	Node location of the Device if known.
Stacker ID	character	20	optional*	Stacker ID name for the Device.
Description	character	100	system generated	Description of Device.
Find	character	N/A	optional	Allows the operator to perform a keyword search for items in the Device Name field

Note: A Device can be a stand alone device not associated with a Stacker.

Devices may be added, modified, or deleted as shown (see Figure 4.10.2-11) and by means of the following buttons:

- **Add…** Allows the operator to add a device. Figure 4.10.2-12 shows a screen displayed when this button is selected. Various entries can be inserted into the associated fields to identify Stacker, Drive Number, Drive Tape Slot, Description, Pathname and other parameters. Note that a number of parameters have built in controls to make a selection.

- **Modify** Allows the operator to change any entries made in the parameters with the above **Add…** button.

- **Delete** Allows the operator to delete the Device information of the Device Name highlighted.

- **Cancel** Allows the operator to close the screen without accepting any changes to the inserted information.

Included with the above standard controls is a **Modify Stacker** button shown in Figure 4.10.2-12. When this button is activated a screen is made available to allow the operator to configure a given Stacker and display Slot Information – see Figure 4.10.2-13 and Table 4.10.2-14. This button is only available when an existing stacker is displayed in the Stacker field.

Figure 4.10.2-12. 8MM Tape Device Configuration Popup

Table 4.10.2-13 describes the fields on the 8MM Tape Device Configuration Popup.

Table 4.10.2-13. Device Configuration Field Description

Field Name	Data Type	Size	Entry	Description
Server ID	character	20	system generated	The server ID selected by the operator and reported by the system.
Stacker	character	N/A	optional	The stacker the device is in.
Drive Number	character	unlimited	required	ID type name for the Drive
Device Name	character	unlimited	system generated	Device name selected by the user and displayed by the system.
Model	character	unlimited	optional	Device model name, if known.
Capacity	character	N/A	required	Predefined set of capacity level (e.g., low)
SCSI Element Number	integer	unlimited	required	Ordinal number ID of the SCSI device
Description	character	100	system generated	Description of Device.
Path Name	character	unlimited	required	Absolute path that identifies the Device

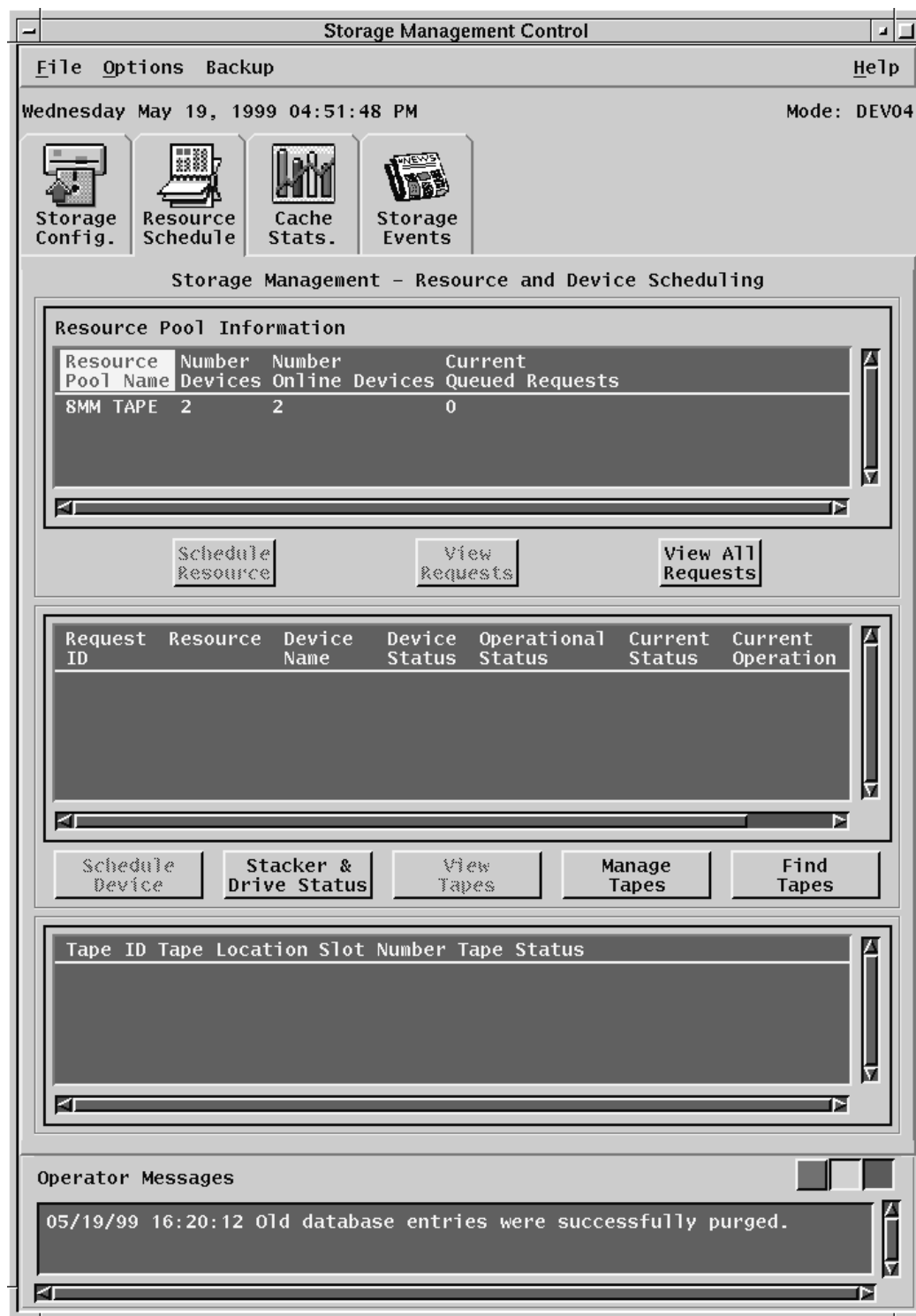*Figure 4.10.2-13. Stacker Configuration Popup*

Table 4.10.2-14 describes the fields on the Stacker Configuration Popup.

Table 4.10.2-14. Stacker Configuration Field Description

Field Name	Data Type	Size	Entry	Description
Stacker ID	character	20	required	The stacker ID selected by the operator for configuration.
Stacker Path	character	unlimited	required	Absolute path that identifies the Stacker.
Medium Type	character	N/A	optional	Predefined list of medium types.
Element Type	character	N/A	required	Element Type assigned to the Stacker.
Stacker Number	integer	N/A	required	ID number assigned to the Stacker
Number of slots	integer	N/A	required	Total number of slots assigned to the stacker
Status	character	N/A	System provided	Status of the selected stacker

4.10.2.2.2 Resource Schedule

The Resource Schedule tab allows the operator to schedule the availability of given storage devices based on the present status of the queued request for devices as shown in Figure 4.10.2-14.

Storage Management Control

File Options Backup   Help

Wednesday May 19, 1999 04:51:48 PM   Mode: DEV04

| Storage Config. | Resource Schedule | Cache Stats. | Storage Events |

Storage Management – Resource and Device Scheduling

Resource Pool Information

Resource Pool Name	Number Devices	Number Online Devices	Current Queued Requests
8MM TAPE	2	2	0

[Schedule Resource]   [View Requests]   [View All Requests]

Request ID	Resource	Device Name	Device Status	Operational Status	Current Status	Current Operation

[Schedule Device] [Stacker & Drive Status] [View Tapes] [Manage Tapes] [Find Tapes]

Tape ID	Tape Location	Slot Number	Tape Status

Operator Messages

05/19/99 16:20:12 Old database entries were successfully purged.

Figure 4.10.2-14.   Resource Scheduling Tab

The following functionality is provided through the several buttons present on the Resource Schedule tab.

- **Schedule Resource** functionality not defined in this version

- **View Requests** allows the operator to display the requests for resources included in the selected Resource Pool in the box below.

- **View All Requests** allows the operator to display the requests for resources in the box below, independently from the selection operated in the Resource Pool Information box.

- **Schedule Device** functionality not defined in this version

- **Stacker and Drive Status** allows the operator to schedule Stackers and Drivers by means of the pop-up window shown in Figure 4.10.2-15. Table 4.10.2-16 provides details on the data fields of the Schedule Stacker/Drive. The scheduling of both Stacker and Drive is allowed through three buttons. Once a Stacker or a Device has been selected, it can be either **Put Online** or **Take**n **Offline** clicking on the provided buttons. Global selection operations on all the displayed stackers and devices are allowed through the **Select All** buttons.

- **View Tapes** list the available tapes on the box below.

- **Manage Tapes** allows for the assignment of tapes to tape groups. Tape groups are comprised of tapes that were serviced by a stacker during a given loading of the stacker. The information about other tapes in the group is available from knowing the tape id of one tape in the group. The purpose of the tape group is to make the collating of tapes for different requests a little easier. Management of the tapes consists of creating or deleting tape groups. Once a tape group is created, the tapes in the tape group can be configured with capacity and access. Tapes are added to the tape group in slot number order (the first tape in the group should be the tape that goes into slot 1 of the tray, etc.). Tape groups can then be assigned to or unassigned from a given stacker. A resume activity button allows for the resumption of servicing requests after the stacker has been reloaded.

- **Find Tapes** button brings up the Tape Information Screen which allows for information about a given tape or another tape in the tape group to be displayed. This information can be used to help collate tapes for a given request.

Table 4.10.2-15 provides information on the data fields shown in the Resource Scheduling Tab.

Table 4.10.2-15. Resource Scheduling Tab Field Description

Field Name	Data Type	Size	Entry	Description
Resource Pool Name	character	N/A	System provided	Name of the Resource Pool
Number of Devices	integer	N/A	System provided	Number of device comprised in the Pool
Number Online Devices	integer	N/A	System provided	Number of device in the Pool that are online
Current Queued Requests	integer	N/A	System provided	Number of Requests currently queued
Request ID	character	N/A	System provided	Identifier of the resource request
Resource	character	N/A	System provided	Resource affected by the selected request
Device Name	character	N/A	System provided	Name of the Device affected by the request
Device Status	character	N/A	System provided	Status of the Device
Operational Status	character	N/A	System provided	Online/Offline flag
Current Status	character	N/A	System provided	Current status of the device
Current Operational Status	character	N/A	System provided	Current operational status of the device
Tape ID	character	N/A	System provided	Identifier for the listed tapes
Tape location	character	N/A	System provided	Location of the tape listed
Slot Number	integer	N/A	System provided	Slot number of the tape location
Tape Status	character	N/A	System provided	Online/Offline flag for the listed tape

Figure 4.10.2-15. Schedule Stacker/Drive Pop-up

Table 4.10.2-16 describes the fields on the Schedule Stacker/Drive Popup.

Table 4.10.2-16.   Schedule Stacker/Drive Field Description

Field Name	Data Type	Size	Entry	Description
Stacker ID	character	N/A	System Provided	Identifier of the stacker that is being scheduled
Medium	character	N/A	System Provided	Type of tape used by drive
Status	character	N/A	System Provided	Status of the Stacker
Error Count	integer	N/A	System Provided	Number of errors received on stacker
Slots Total/On line	Integer, Integer	N/A	System Provided	Ratio of the total versus the on line Slots
Drives Total/Online	Integer, Integer	N/A	System Provided	Ratio of the total versus the on line Devices
Slots Rd/Wr	Integer	N/A	System Provided	Ratio of the Read Slots versus write slots
Device Name	character	N/A	System Provided	Name of the Device that is being scheduled
Status	character	N/A	System Provided	Current Status of the device that's being scheduled
Current status	character	N/A	System Provided	Tape drive allocated/ unallocated
Stacker ID	character	N/A	System Provided	ID of the Device's stacker
Description	character	N/A	System Provided	Description of the device

4.10.2.2.2.1 Manage Tape Groups Screen

The Manage Tape Groups screen is shown in Figure 4.10.2-16.
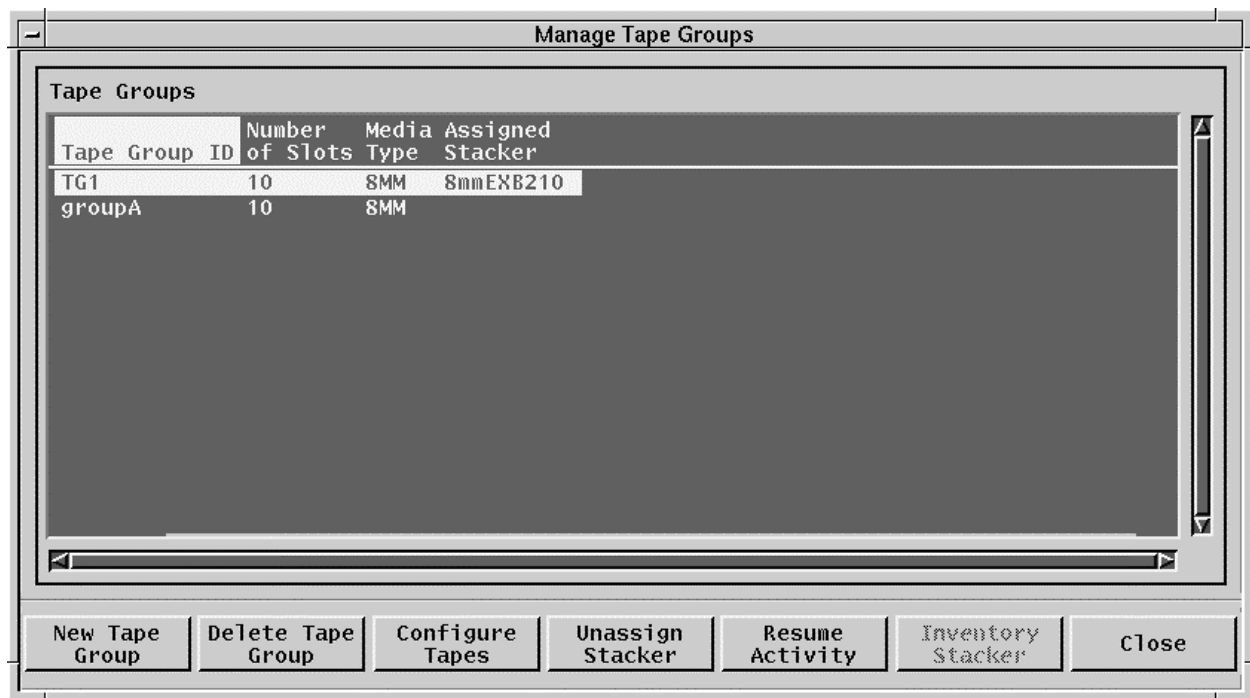
Figure 4.10.2-16. Manage Tape Groups Screen

4.10.2.2.2.1 New Tape Group Screen

The New Tape Group screen shown in Figure 4.10.2-17 appears when the New Tape Group button on the Manage Tape Groups screen is pushed. The user should enter a unique group name, the number of slots in the group (which should correspond to the number of slots that will be in the stacker using the tapes) and the media type of the tape.

Figure 4.10.2-17. New Tape Group Screen

4.10.2.2.2.2 Configure Tape Group Screen

The Configure Tape Group screen shown in Figure 4.10.2-18 appears when the Configure Tape Group button on the Manage Tape Groups screen is pushed. The Configure Tape Group screen has the name of the tape group displayed at the top of the screen. The slot number is along the far left. Rows for element number, capacity, slot use, and tape ids proceed towards the right and can be updated by the operator. The element column should be left as it is. It deals with the SCSI element number for the slot. The capacity for each line can be set independently by selecting a row and entering the capacity box at the bottom of the column. If the Assign Capacity to All Tapes button is pushed, the capacity will be assigned to all of the rows. The slot use can be set for each row by selecting the row and toggling the value in the menu box at the bottom of the column. Again, the slot use for all of the rows can be set to the value of the slot use for the selected row by hitting the Assign Use to All Tapes button. The Cancel button closes the window and does not update the database. Apply updates the database but does not close the window. OK updates the database and closes the window. Entering the Configure Tape Group during operations may set the slot use back to read only in the GUI display. This will not affect operations if the window is closed using cancel. This is a known problem and should be fixed in 5B.

Figure 4.10.2-18.   Configure Tape Group Screen

4.10.2.2.2.3 Assign Tape Group to Stacker Screen

The Assign Tape Group to Stacker screen shown in Figure 4.10.2-19 is accessed via the Assign Stacker/ Unassign Stacker button. The Assign Stacker button appears if the selected tape group does not have a stacker assigned. If the selected tape group has a stacker assigned, the button changes to a Unassign Stacker button. The Assign Tape Group to Stacker screen has the name of

the tape group at the top of the screen. A list of stackers that can service the tape group is in a selection list below the name. Clicking on one of the stackers allows the Assign button to be activated. The Unassign and cancel buttons do not require the selection of a stacker. The Unassign button breaks the assignment of the group to the stacker and closes the Assign Tape Group to Stacker screen. Cancel also closes the screen leaving the tape group in its current assigned/unassigned state. Hitting the Assign button closes the window. If the stacker is not already assigned, the tape group will show the assignment in the Manage Tape Groups screen. If the stacker has already been assigned the assignment will not appear in the Manage Tape Group screen and an error message will appear in the operator messages at the bottom of the STMGT GUI.
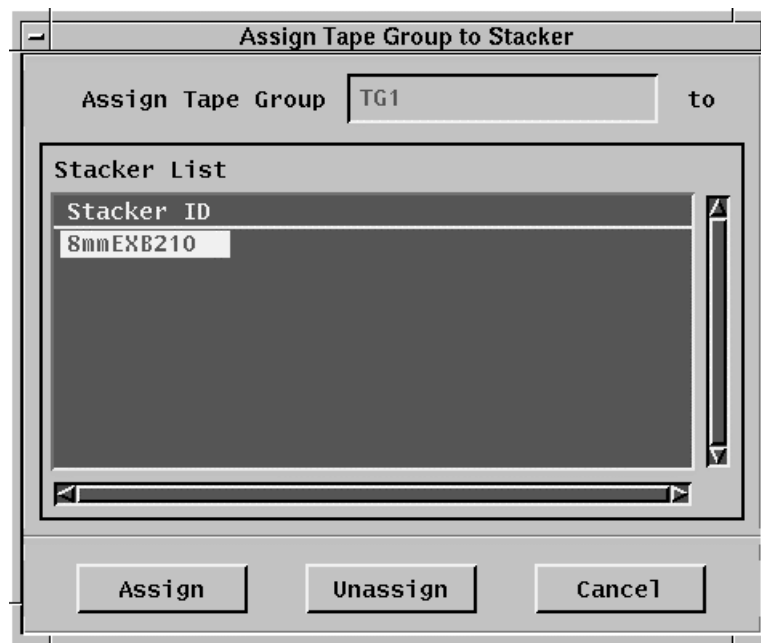
Figure 4.10.2-19.   Assign Tape Group to Stacker Screen

4.10.2.2.3 Cache Stats. Tab

This Tab displays all of the files that are in the Pull Monitor cache. Two views of the same stats are available to the operator one in textual mode the other in graphical mode (see Figures 4.10.2-20 and -21). The selection of the presentation mode is operated through the switch button in the upper right portion of the tab.

It reports general statistics on the entire cache and allows the operator to delete expired files in the cache area. If the cache reaches an operator configurable threshold the operator is warned with a message in the operator messages area. If the operator does not delete expired files and allows the cache to fill, the server will not be able to copy new files to the cache area.

When the **Mark Delete** button is pressed, the selected item in the list is marked for deletion. Multiple items may be selected. When the **Unmark Delete** button is pressed the delete flag is removed for all items selected in the list. When the **Purge** button is pressed, all items marked for deletion are deleted from the cache if they have expired. The **Change Threshold** button displays a small window that allows the operator to change the fault and warning cache space level.

Storage Management Control

File   Options   Backup   Help

Wednesday August 26, 1998 12:16:07 PM

| Storage Config. | Resource Schedule | Cache Stats. | Storage Events |

Cache Id: Pull Monitor cache1   Text

Cache Statistics

Current Utilization:	0.000270	Number of Resident Files:	1
Used Space (Blocks):	27	Number of Expired Files:	0
Free Space (Blocks):	9999973	Maximum File Size (Blocks):	1051
Total Space (Blocks):	10000000	Minimum File Size (Blocks):	1051
		Average File Size (Blocks):	1051

Cache Information

Exp. Flag	Del. Flag	Filename	File Size (Blocks)	Reference Count	Insertion Time
NOT EXPIRED		a4	1051	1	08/25/98 17:12:13

| Mark Delete | Unmark Delete | Purge | Change Threshold |

Operator Messages

08/26/98 12:15:03 Old database entries were successfully purged.

Figure 4.10.2-20.   Cache Stats. Tab Textual Mode
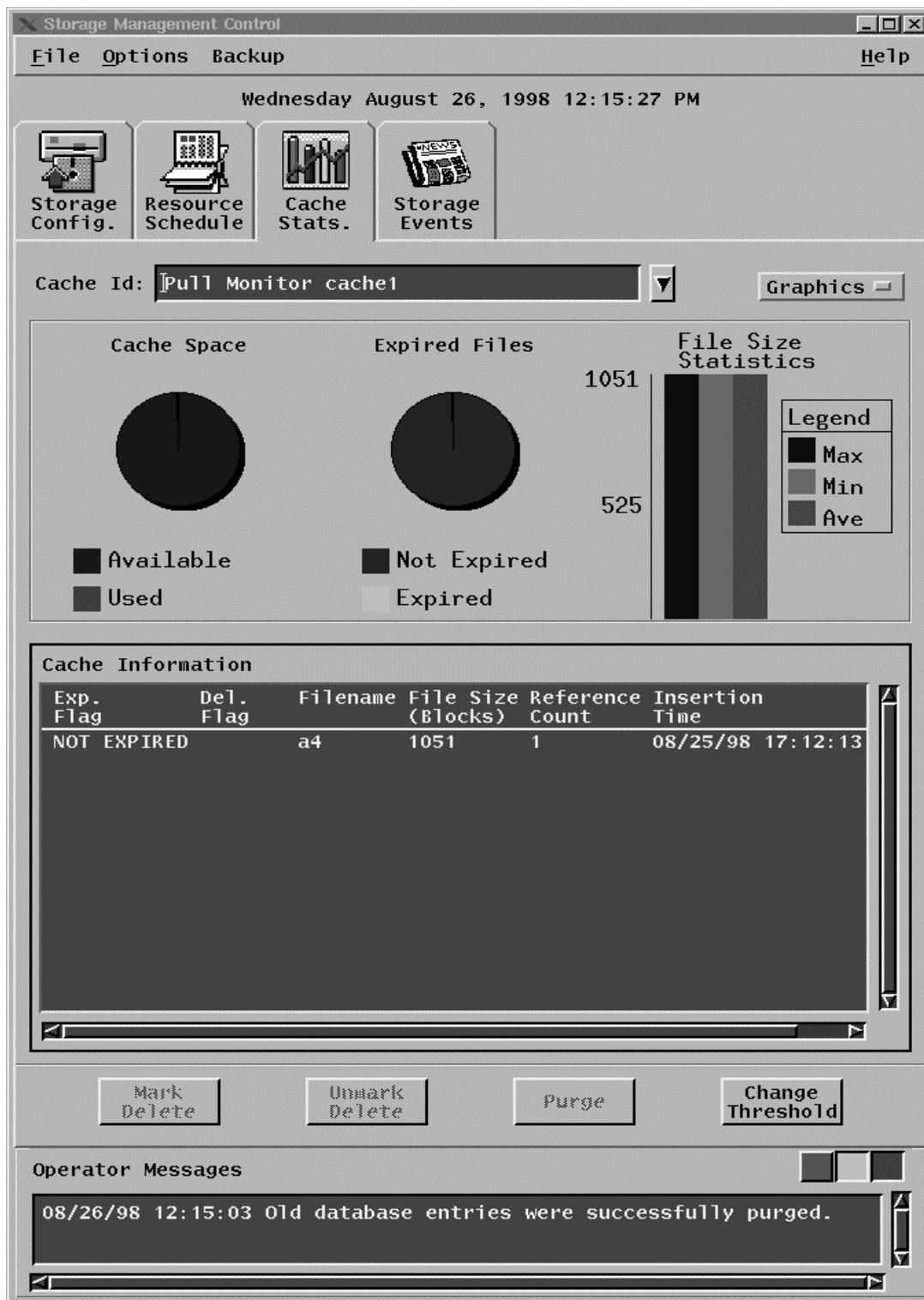
Figure 4.10.2-21. Cache Stats. Tab Graphical Mode

Table 4.10.2-17 describes the fields on the Cache Stats tab.

Table 4.10.2-17.   Cache Stats. Field Description

Field Name	Data Type	Size	Entry	Description
Current Utilization	float	N/A	system generated	Percent of cache space that is full
Used Space	integer	N/A	system generated	Amount of space in cache that is being used.
Free Space	integer	N/A	system generated	Amount of space in cache that is free
Total Space	integer	N/A	system generated	The total space in the cache
Number of Resident Files	integer	N/A	system generated	The number of files in the cache.
Number of Expired Files	integer	N/A	system generated	The number of files that have expired in the cache.
Maximum File Size	integer	N/A	system generated	The size of the largest file in the cache.
Minimum File Size	integer	N/A	system generated	The size of the smallest file in the cache.
Average File Size	integer	N/A	system generated	The average size of the files in the cache.

4.10.2.2.2.4 Tape Information Screen

The Tape Information screen shown in Figure 4.10.2-22 appears when the Find Tapes button on the Manage Tapes screen is pushed. At the top of the screen, there is an entry field for a tape id. When a tape id is entered, the location field below the tape id is filled in with the current known location of the tape. If the taped is part of a group that has been assigned to a stacker, then the stacker id appears in that field. The operator has the ability to enter a new location for the tape. The status, request id, and tape group id for the tape are also displayed. Towards the bottom of the screen is a selection list which is filled in with the other tapes in the tape group. Clicking on one of them displays the information for that tape at the upper part of the screen. An OK button will save any changes to the location for the selected tape and close the screen. Apply saves the changes to the location but does not close the screen. View Requests brings up a new screen that provides information about all of the tapes associated with the request. Cancel closes the screen without saving any changes for the location of the tape.

Figure 4.10.2-22.   Tape Information Screen

4.10.2.2.4 Storage Events Tab

The Storage Event tab shown in Figure 4.10.2-23 allows the operator to search for events in the Event Log. Various search parameters are shown in the Event Log Search Parameter box. When the **Search** button is selected, the results are shown in the Event Log box.
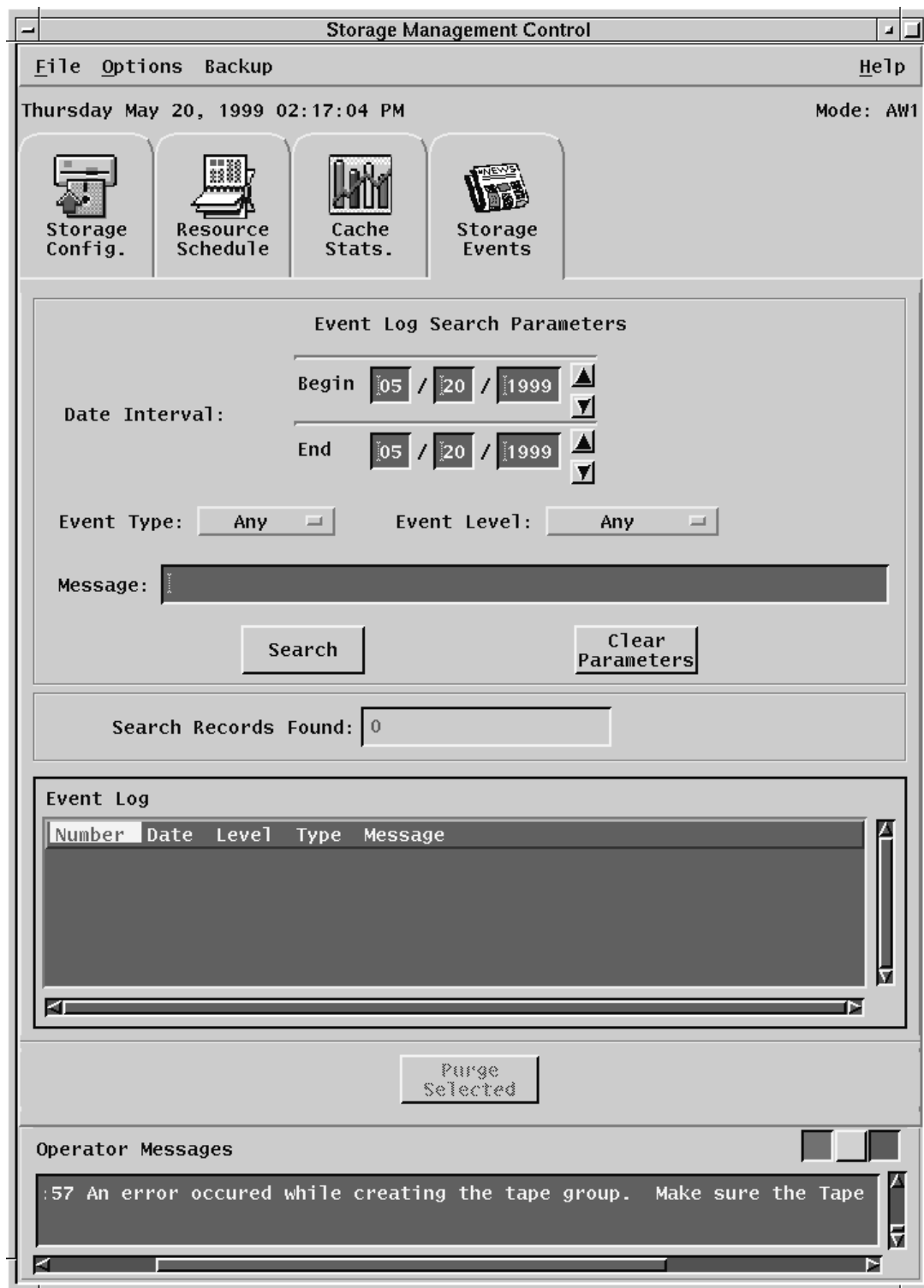
Figure 4.10.2-23. Storage Events Tab

The **Clear Parameters** button deletes entries made in the Event Log Search Parameters data fields. The **Purge Selected** button, when selected, deletes the entries in the Event Log which are highlighted ("Selected") by the operator. A context sensitive **Help** button provides the operator with information on the listed events,

Table 4.10.2-18 describes the Event Log fields.

Table 4.10.2-18.   Event Log   Field Description

Field Name	Data Type	Size	Entry	Description
Date	date/time	21	system generated	Date and time event was entered into the Event Log. GMT in the format: mm/dd/yy hh:mm:ss.sss
Level	character	11	system generated	Classification of event into various defined (TBS) Levels.
Type	character	10	system generated	Classification of event into various defined (TBS) Types.
Message	character	255	system generated	Message as entered in the Event Log.

Note: the same fields are reported in the "Operator Messages" box in Figure 4.10.2-23. The data type, size, and the description are the same while the entry is "optional" based on the search criteria that the operator uses.

4.10.2.2.5 Storage Management Control Menu Screens Available

The following screen (shown in Figure 4.10.2-24) is made available when the **Backup/Restart** menu function is activated from the **File/Backup** menu:
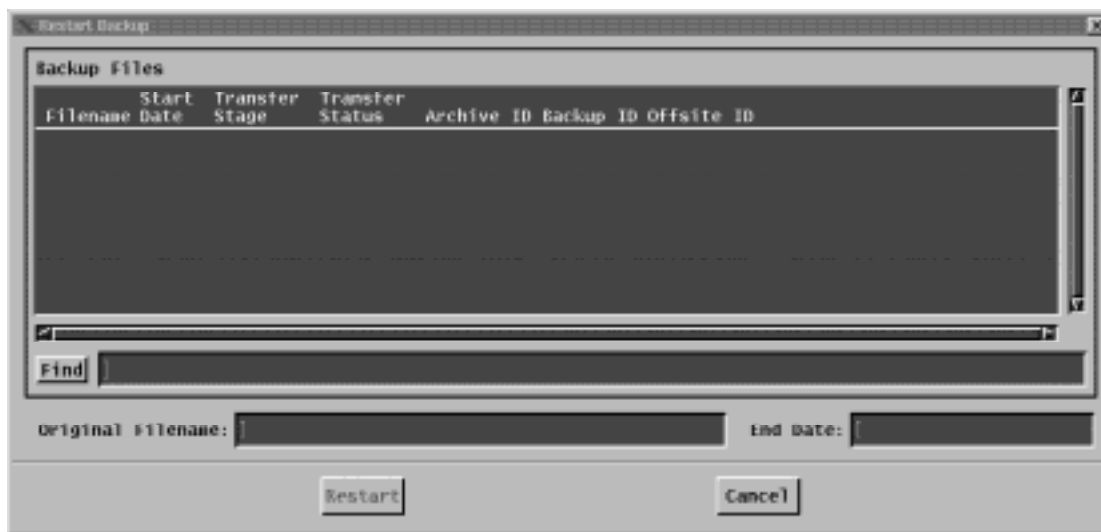
Figure 4.10.2-24.   Restart Backup Pop-up

Table 4.10.2-19 describes the Restart Backup fields.

Table 4.10.2-19.   Restart Backup Field Description

Field Name	Data Type	Size	Entry	Description
Filename	character	100	system generated	File name which uniquely identifies file.
Start Date	date/time	21	system generated	Date and time at the start of the file. GMT in the format: mm/dd/YY hh:mm:ss.sss
Transfer Stage	character	9	system generated	Stage of file transfer.
Transfer Status	character	9	system generated	Status of file transfer.
Archive ID	character	30	system generated	Identification of data in Archive files.
Backup ID	character	30	system generated	Identification of data in Backup files.
Offsite ID	character	3	system generated	Identification of Site where files are located.
Find	character	255	optional	Allows the operator to perform a keyword search for items in the Device Name field

The pop-up screen shown in Figure 4.10.2-25 shows up when the **Restore Backup** menu item is selected from the **File/Backup** menu.

The operator is given the possibility to enter the **Original Filename** and the **End Date** of the backup file that has to be restored as specified in the following Table 4.10.2-20.

Figure 4.10.2-25.   Restore Backup Pop-up

Table 4.10.2-20.   Restore Backup Field Description

Field Name	Data Type	Size	Entry	Description
Original Filename	character	100	system generated	File name which uniquely identifies the backup file to be restored.
End Date	date/time	21	system generated	Date and time at the end of the file. GMT in the format: mm/dd/YY hh:mm:ss.sss

Selecting the menu item **Setup** from the **File/Backup** menu allows the operator to define parameters for both the on-site and off-site backups. Figure 4.10.2-26 shows the pop-up window that the operator uses for this purpose. Table 4.10.2-21 describes the parameters that are used in the pop-up window.

Figure 4.10.2-26.   Setup Backup Pop-up

Table 4.10.2-21. Setup Backup Field Description

Field Name	Data Type	Size	Entry	Description
Offsite ID	character	N/A	optional	List of selectable offsite identifier
Cellname	character	N/A	optional	DCE cell name of the selected ECS site
HWCI	character	N/A	optional	Name of the Hardware Configuration Item
Server ID	character	N/A	optional	ID of the server that is used for the back up
Volume Group Name	character	unlimited	required	Volume Group Name that is Backed-up
Volume Group Path	character	unlimited	required	Absolute Path for the Volume Group that is Backed-up

Selecting the Options Menu Item from the File menu shows the pop up window that allows the operator to select the polling rate for the event log – see Figure 4.10.2-27.

A **Database Polling On** button allows the operator to switch the **Database Polling Rate** on or off.

Figure 4.10.2-27. Polling Rate Selection Pop-up

The affected parameters are shown in Table 4.10.2-22.

Table 4.10.2-22. Polling Rate Field Description

Field Name	Data Type	Size	Entry	Description
Database Polling Rate	integer	unlimited	optional	Rate at which the event log is update
Error Retry Rate	integer	unlimited	optional	Rate at which an update of the event log is attempted after error condition detection.
Database Polling Rate	integer	unlimited	optional	Rate at which the cache statistics are updated

The **Ok** button implements the new selections and closes the pop-up window.

The **Cancel** button ignores the changes and closes the window.

4.10.2.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables of the Storage Management Control Tool refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series . The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

Table 4.10.2-23 identifies the supporting products this tool depends upon in order to function properly.

Table 4.10.2-23. Support Products for Storage Management Control

Product Dependence	Protocol Used	Comments
Sybase	SQL	Checkpoint, configuration and request management for the server.
DCE	OODCE	Interprocess communication

4.10.2.4 Databases

The Storage Management Tool uses data that is provided by the Storage Management Database. For details about the Storage Management Database please refer to DID 311-CD-108-005, *Storage Management Database Design and Schema Specifications*.

4.10.2.5 Special Constraints

AMASS has to be up in order for the Storage management Tool to archive and retrieve files. Moreover the FTP server on the ACP host has to have debug logging enabled to write filename of pulled files to syslog for pull notification to the pull monitor.

4.10.2.6 Outputs

None.

4.10.2.7 Event and Error Messages

See Appendix A, Error Messages

4.10.2.8 Reports

None.

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4.10.3 Data Distribution Tool

The Data Distribution Requests GUI displays detailed information on individual data distribution requests and provides the capability to filter requests, change the priority of requests, and mark requests as shipped. The GUI's main window provides the operations personnel at the DAACs the capability to manage the data distribution requests. A synopsis of the functions performed by the Data Distribution Requests Tool is given in Table 4.10.3-1.

Table 4.10.3-1. Common ECS Operator Functions Performed with the Data Distribution Tool

Operating Function	Tab	Description	When and Why to Use
Manage Data Distribution Request Activities	Distribution Requests Tab	Allows operators to view and track data distribution requests	As required to monitor detailed information on data distribution request activities, change priority of requests, and mark requests as shipped, suspend/resume selected requests, suspend/resume all requests, and filter requests.

4.10.3.1 Quick Start Using Data Distribution

To start the Data Distribution Tool, the operator types the following command line:

>EcDsDdistGuiStart <mode>

<**mode**> is the ECS mode for the execution, e.g., OPS, TS1.

4.10.3.2 Data Distribution Main Screen

The Data Distribution Tool Main Screen has five tabs:

- The **Data Distribution Requests** tab which provides the functionality needed to track the activity related to product distribution requests.

- The **System Request** tab whose functionality has not yet been defined as of ECS Release 5A delivery.

- The **Tape ID's** tab which allows tapes to be searched from the Distribution list based on the ID or Distribution Request Number.

- The **Packing List** tab whose functionality has not yet been defined as of ECS Release 5A delivery.

- The **Event Log Search Parameters** tab whose functionality has not yet been defined as of ECS Release 5A delivery.

The following sub-sections describe the graphical elements that characterize the user interface of the above tabs.

4.10.3.2.1 The Data Distribution Requests Tab

The Data Distribution Requests Tab shown in Figure 4.10.3-1 is the default tab that appears when the Data Distribution Tool is invoked.
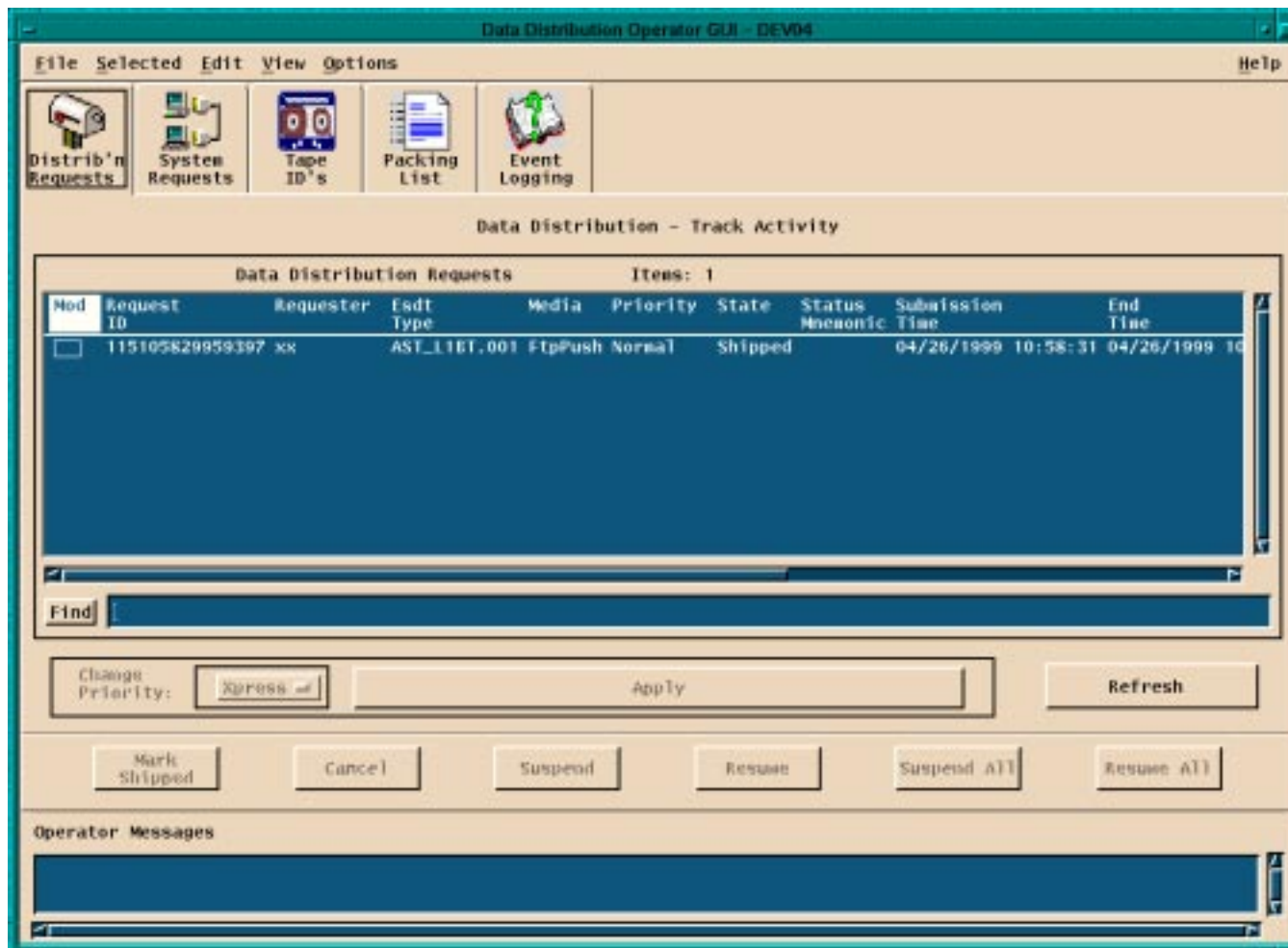
Figure 4.10.3-1. Data Distribution Main Screen showing Data Distribution Request Tab

The Data Distribution Request tab displays data distribution requests. The major component is the Track Activity panel which lists the data distribution requests currently being handled by the Data Distribution server. The total number of requests is displayed at the top of the panel in the Items field. Several parameters associated with each individual request are displayed.   The list can be sorted by column. All of the parameters included for each request are identified and described in Table 4.10.3-2.

Table 4.10.3-2.   Data Distribution - Track Activity Panel Field Description (1 of 2)

Field Name	Data Type	Size	Entry	Description
MOD	boolean	1		Checkmark that shows which requests have been selected and/or modified by the operator during the current session
Request ID	character	unlimited	system generated	Unique identifier for the request.
Requester	character	unlimited	system generated	Identifies the user that submitted the request.
Media	character	unlimited	system generated	Type of media to be used for distribution. Values are CD-ROM, 9-Track, 8mm, 4mm, FtpPush, and FtpPull.
Priority	character	unlimited	system generated	Priority at which the distribution request is processed relative to other distribution requests, Normal is its default value. Other Values are: Xpress, Vhigh, High, and Low.
State	character	unlimited	system generated	Request states are: pending, active, staging, waiting for shipment, shipped, canceled, transferring, suspended, suspended with errors.
Status Mnemonic	character	unlimited	system generated	Displays a small message that indicates there is an operator message attached to the request.
Submission Time	date/time	19	system generated	Time when the submit service was invoked upon the request. The time is standard GMT The format used is: mm/dd/yyyy hh:mm:ss.
End Time	date/time	19	system generated	Time when the distribution request has been satisfied. Time is in standard GMT, the format is mm/dd/yyyy hh:mm:ss.
Total Size (bytes)	integer	unlimited	system generated	Total size in bytes of the data to be distributed in the request.
Media # Completed	integer	unlimited	system generated	# of media that have been already filled up by the distribution request that is being processed
# Media	integer	max # of Media configurable	system generated	# of Media that need to be used to completely fulfill a (media) distribution request.
# Granules	integer	unlimited	system generated	# of granules comprising the distribution request

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Table 4.10.3-2.   Data Distribution - Track Activity Panel Field Description (2 of 2)

Field Name	Data Type	Size	Entry	Description
# of Files	integer	unlimited	system generated	Number of files in the distribution request.
Order ID	character	unlimited	system generated	the unique order ID that the entire data server use for identifying the distribution request
Ordered State	character	20	system generated	Request State can be changed directly by the operator by means of the button provided on the Track Activity screen (see below). See "State" field for values.

The operator can select from the menu bar items at the top of the Data Distribution GUI window for getting help and activating less-frequently used secondary functions. The menu bar capability is available on all Data Server GUI screens. The following menus are available:

- **File** includes the following items:

  - **View** opens a text viewer window

  - **Open…** not yet associated with any specific functionality as of this time

  - **Open Terminal** opens an XTerm window

  - **Save** not yet associated with any specific functionality as of this time

  - **Save As…** not yet associated with any specific functionality as of this time

  - **Go up** not yet associated with any specific functionality as of this time

  - **Go down** not yet associated with any specific functionality as of this time

  - **Go Home** not yet associated with any specific functionality as of this time

  - **Go To…** not yet associated with any specific functionality as of this time

  - **Print** not yet associated with any specific functionality as of this time

  - **Close** not yet associated with any specific functionality as of this time

  - **Exit** (Ctrl-Q) which exits the application (graceful exit).

- **Selected** opens the a menu comprising the following items:

  - **Select All** not yet associated with any specific functionality as of this time

  - **Deselect All** not yet associated with any specific functionality as of this time

- **Change Permissions** not yet associated with any specific functionality as of this time

- **Edit** that includes the following items:

  - **Undo** not yet associated with any specific functionality as of this time

  - **Cut** not yet associated with any specific functionality as of this time

  - **Copy** not yet associated with any specific functionality as of this time

  - **Paste** not yet associated with any specific functionality as of this time

  - **Clear** not yet associated with any specific functionality as of this time

  - **Delete** not yet associated with any specific functionality as of this time

- **View** includes the following items:

  - **Refresh** redraws the window

  - **Filter** opens the Filter Control window

  - **Detailed** sends the detailed information of the selected distribution request to the operator messages text field

- **Options** includes the following items:

  - **System Settings** opens the Refresh Options window where the operator is given the option to toggle the **DDist base polling** *On* and *Off* through the provided toggle button (see Figure 4.10.3-2). In case the operator decided to have the polling of the Data Distribution Database *On*, the polling rate is editable. Details on the parameters that can be input by the operator in the Refresh Options screen are provided in Table 4.10.3-3

  - **Verify Connection** will check the connections to the Distribution server, and send the connection status to the Operator message text field

  - **Reconnect** will attempt to reestablish communications to the Distribution server

- **Help** provides on-line help to the operator.

Table 4.10.3-3.   Refresh Options Field Description

Field Name	Data Type	Size	Entry	Description
DDist Polling Rate	integer	0-9999	optional	Allows the operator to specify the polling rate in seconds for updating the Task Activity Window (default is 30 sec).
Error Retry Rate	integer	0-9999	optional	Time in seconds that the system is going to wait before trying to poll the Data Server, after a failed attempt (currently not yet supported).
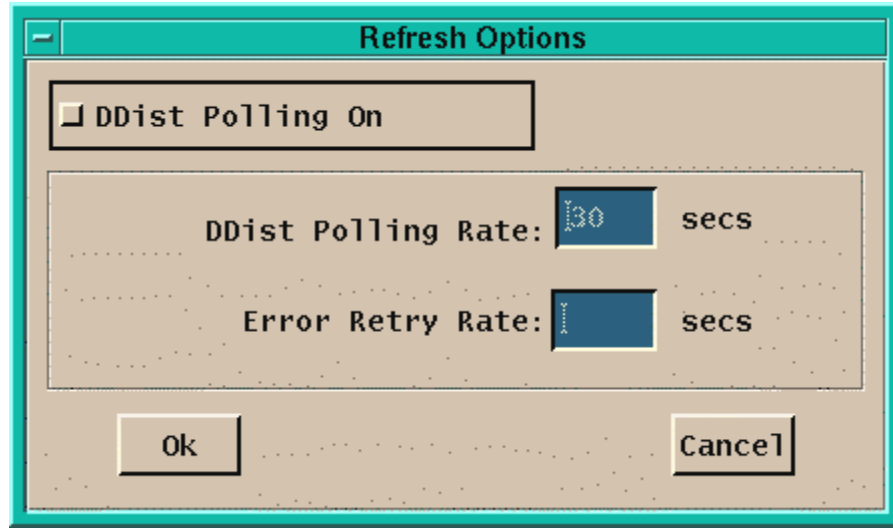
Figure 4.10.3-2.   Refresh Options Window

The Data Distribution Tab includes additional functionality associated with the following buttons:

- **Apply** allows the operator to change the priority of the distribution requests selected in the Track Activity panel. Available selections are Xpress, Vhigh, High, Normal (default), and Low. The priority selection is handled through a pull down menu.

- **Mark Shipped** allows the operator to change the state of the selected Hard Media distribution request from waiting for shipment to shipped when the request has actually been shipped.

- **Filter** brings up the Filter Request Dialog (see Figure 4.10.3-3) which provides a selection of attributes from the list of distribution requests on which to filter. Filter on **Request ID** and **Requester** is done by selecting the corresponding toggle button and entering the desired information. Selecting the **All Requests** radio button returns to the original state of the request list. Further request filtering is allowed by selecting one or more media type radio buttons. The operator filters on all Media types by clicking the **All** button or clears all selected filters by clicking on the **None** button. Options for the Media Type, as shown in fig. 4.10.3-3, include: CD-ROM, 9-Track, 8 mm, 4 mm, Electronic Push, and Electronic Pull.

Filtering is also allowed based on possible States of the request by selection through the available radio buttons in the **State:** panel. By clicking on **All** the operator can filter on all possible states. All selected filters can be cleared by clicking on the **None** button. Selectable States include: Pending, Active, Staging, Transferring, Cancelled, Suspended, Suspended with Errors, Waiting for Shipment, and Shipped.

In addition, the following pushbuttons are available:

- **OK** applies all selected filters and closes the filter dialog.

- **Apply** implements all filters and keeps the filter dialog open (in case other filtering needs to be done.)

- **Cancel** closes the filter dialog without applying the selected filters.

- **Help** displays on-line help information.

Figure 4.10.3-3.   Data Distribution -   Filter Requests Dialog

Table 4.10.3-4 describes the Data Distribution - Filter Requests fields.

Table 4.10.3-4. Data Distribution - Filter Requests Field Description

Field Name	Data Type	Size	Entry	Description
Request ID	character	unlimited	Operator Selected	Unique identifier for the request.
Requester	variable character	unlimited	Operator Selected	Identifies user that submitted the request.

Back to the Data Distribution Tab, the following additional buttons are also available:

- **Refresh** updates the Data Distribution Request screen with the most recent list of requests.

- **Cancel**, **Suspend** and **Resume** allow the operator to, respectively, cancel, suspend or resume the requests selected in the Track Activity list.

- Finally the **Suspend All** and **Resume All** buttons suspend all and resume all requests currently present in the Data Distribution server.

- **Operator Messages**: any error encountered during an operation to a request in the list is displayed in the operator messages window at the bottom of the screen.

4.10.3.2.2 System Requests Tab

The functionality associated with the System Requests tab shown in Figure 4.10.3-4 is not yet defined, as of ECS Release 5A delivery.
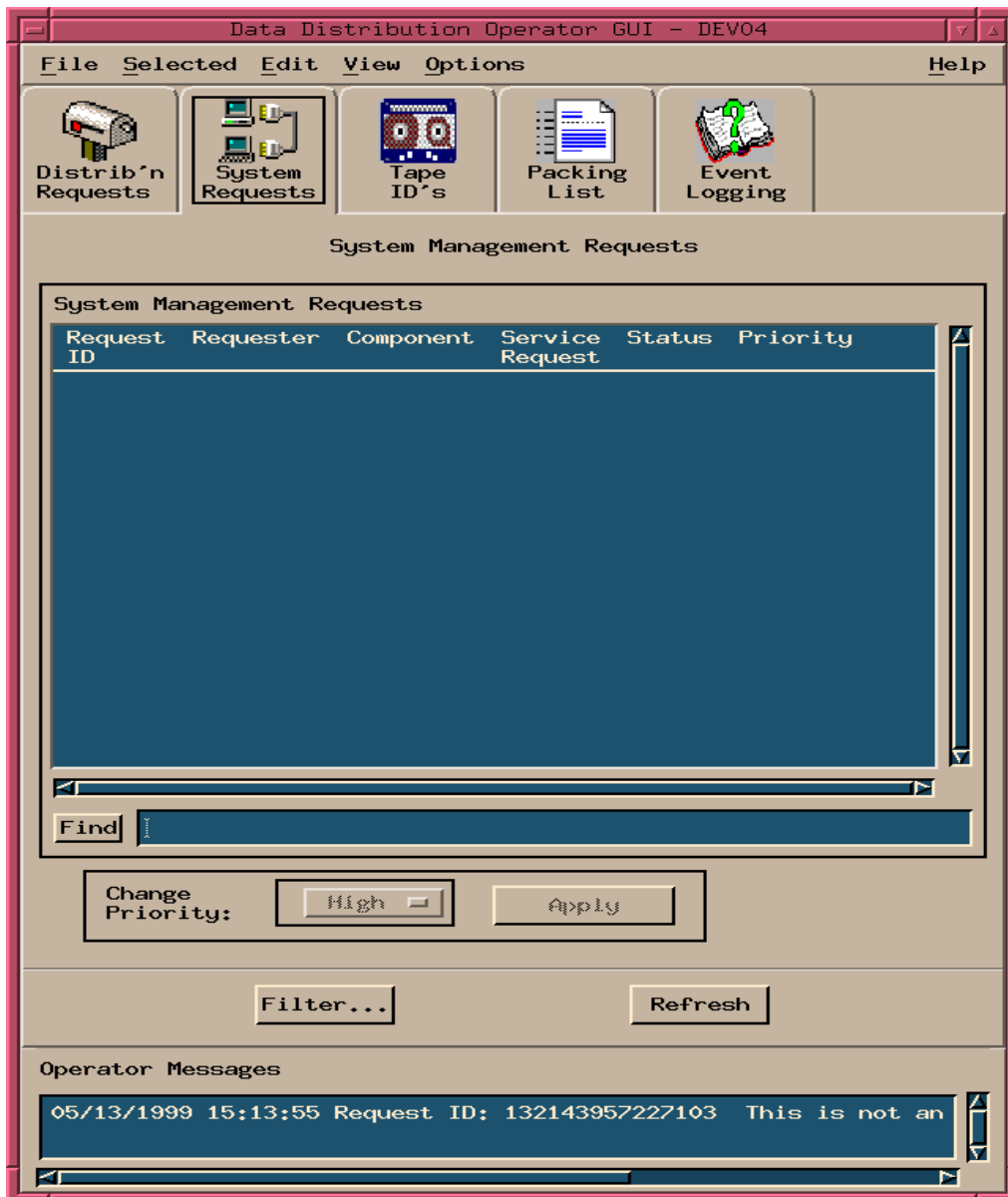
Figure 4.10.3-4.   System Requests Tab

4.10.3.2.3 Tape ID's Tab

The purpose of the Tape ID's tab shown in Figure 4.10.3-5 is to find and display Distribution Tape Request Items and Tape ID's associated with these requests.
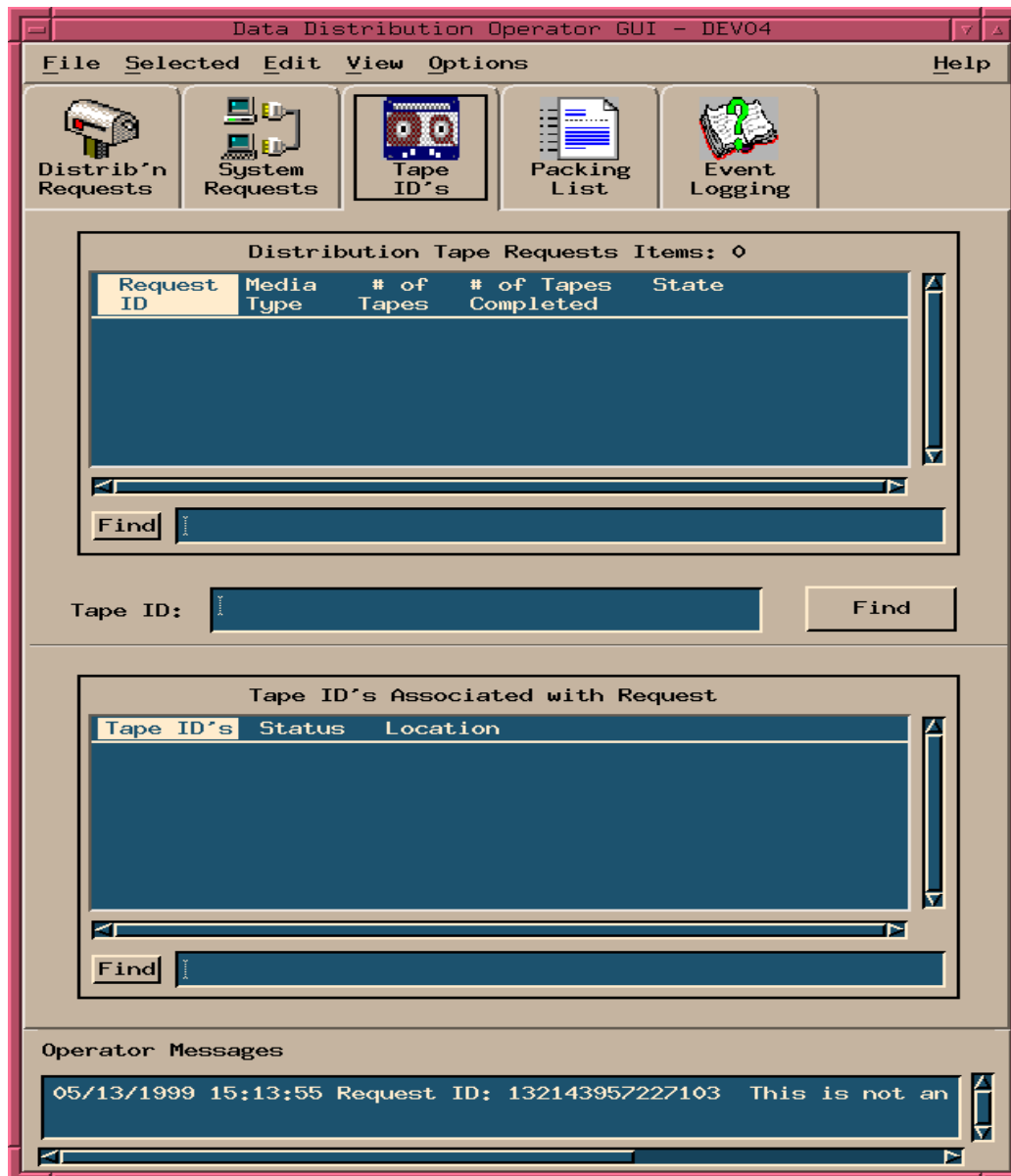
Figure 4.10.3-5. Tape ID's Tab

The tab contains two list panels, one for Distribution Tape Requests and the other for Tape ID's Associated with Request. The first list displays the total number of tape requests at the top of the

panel. Several parameters associated with each individual request are displayed to the user through this panel. The list can be sorted by column. All of the parameters included for each request in the Distribution Tape Requests panel are listed and described in Table 4.10.3-5.

Table 4.10.3-5.   Distribution Tape Requests Items Field Description

Field Name	Data Type	Size	Entry	Description
Request ID	character	unlimited	system generated	Unique identifier for the request.
Media Type	character	unlimited	system generated	Type of tape media to be used for distribution. Values are 9-track, 8mm, 4mm.
# Tapes	integer	max # of Media	system generated	# of Media that need to be used to completely fulfill a media distribution request.
# Tapes Completed	integer	unlimited	system generated	# of Media that have already been filled up by the distribution request that is being processed
State	character	unlimited	system generated	Request states are: pending, active, staging, waiting for shipment, shipped, canceled, transferring, suspended, suspended with errors.

The second list displays the total set of tapes associated with the request selected in the first list. Several parameters associated with each individual request are displayed to the user through this panel. The list can only be sorted by Tape ID column. All of the parameters included for each request in the Tape Ids Associated with Request panel are listed and described in Table 4.10.3-6.

Table 4.10.3-6. Tape ID's Field Description

Field Name	Data Type	Size	Entry	Description
Tape ID	character	unlimited	system generated	Unique identifier for the tape.
Status	character	unlimited	system generated	Storage Management description of the tape status.
Location	character	unlimited	system generated	Physical location of the tape.

The Tape ID's tab includes additional functionality associated with the following button:

- **Find** allows the operator to search the database for a specified Tape ID. If found, the tape's associated Request ID will be displayed in the Distribution Tape Requests list, and all of the tapes associated with the Request are listed in the Tape ID list.
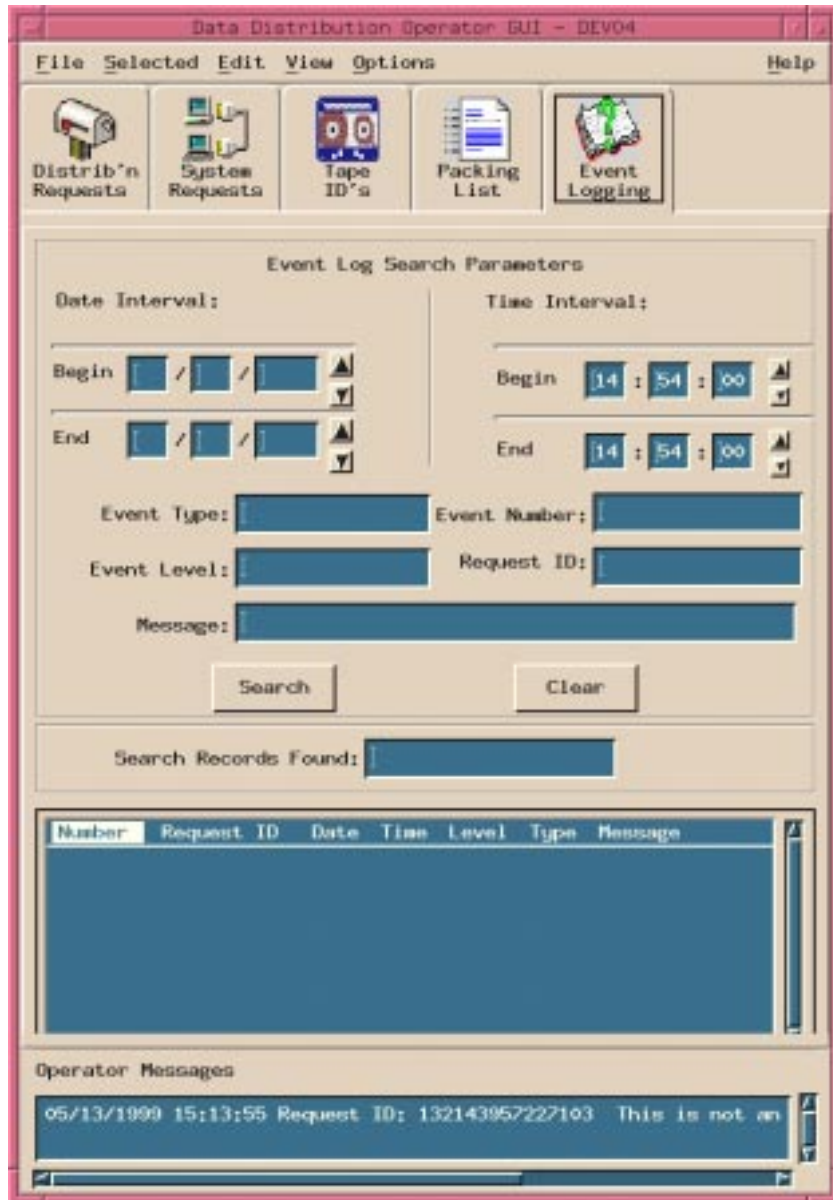
4.10.3.2.4 Packing List Tab

The functionality associated with the Packing List tab as shown in Figure 4.10.3-6 is not yet defined, as of ECS Release 5A delivery.
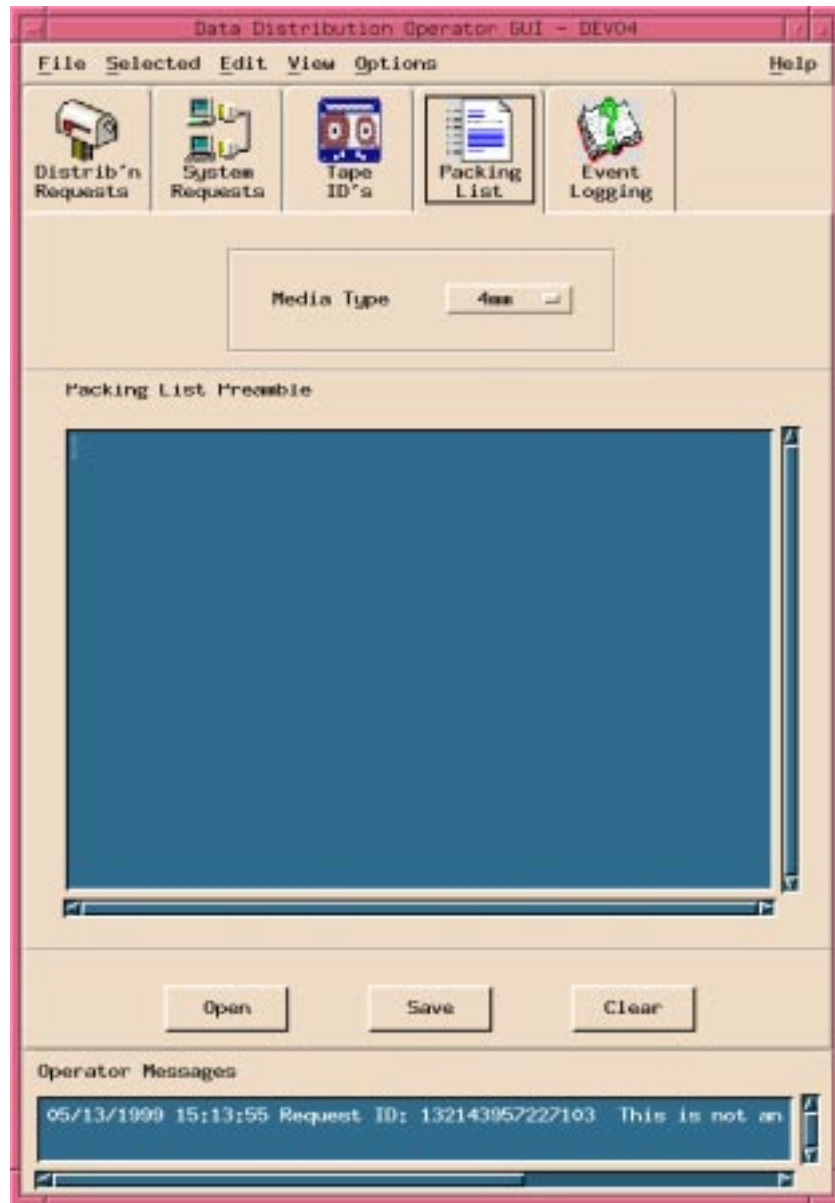
Figure 4.10.3-6. Packing List Tab

4.10.3.2.5 Event Log Search Parameters Tab

The functionality associated with the Event Logging tab shown in Figure 4.10.3-7 is not yet defined, as of ECS Release 5A delivery.

Figure 4.10.3-7.   Event Logging Tab

4.10.3.3 Required Operating Environment

For information on the operating environment, tunable parameters, and environment variables refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series.   The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

4.10.3.3.1 Interfaces and Data Types

Table 4.10.3-7 identifies the supporting products this tool depends upon in order to function properly.

Table 4.10.3-7.   External Interface Protocols

Product Dependency	Protocol Used	Comments
DDIST and all clients	DCE	via DDIST client libraries

4.10.3.4 Databases

The Data Distribution Requests Tool displays and updates the list of distribution requests after retrieving the information from the EcDsDistributionServer database associated with a mode. Mode refers to the system environment (e.g., OPS, TS2).   Details about the architecture of the EcDsDistributionServer database can be found in the applicable section of DID 311-CD-101-005, *Data Distribution Database Design and Schema Specifications for the ECS Project.*

4.10.3.5 Special Constraints

The Data reported in the Task Activity window has to be retrieved from the Data Distribution database, as specified in the previous paragraph. The Data Distribution database must then be up and running before invoking the Data Distribution Tool.

4.10.3.6 Outputs

The Data Distribution Tool mainly is used to display data produced by other ECS components and does not generate any specific output.

4.10.3.7 Event and Error Messages

Both event and error messages are listed in Appendix A.

4.10.3.8 Reports

None

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4.11 User Services Tools

This section describes the User Services tools used by DAAC operators:

1. User Account Management Tool

2. Order Tracking

3. Data Dictionary Maintenance Tool

4. Subscription Editor

5. Database Installation and Maintenance Scripts

6. Database Replication Scripts

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4.11.1 User Account Manager

The User Account Manager is used by DAAC and SMC operators to process new account request and manage existing ones. There are two version of the User Account Management GUI – the DAAC version and the SMC version. This is due to the fact that user profiles are read-only at the DAACs and read/write at the SMC. The only difference between the two is that the SMC version contains extra buttons to allow the operator to perform various account creation and update functions. Since the GUIs are nearly identical, this section will be used to describe both. A clear indication will be given, however, when a specified functionality is not available on the DAAC GUI. DAAC operators are able to use the SMC GUI to maintain DAAC accounts by logging into the SMC and running the SMC GUI remotely.

The User Account Management GUI, shown in Figure 4.11.1-1, contains two tabs: the **Request Account** tab and the **Profile Account** tab. The **Request Account** tab allows operators to select a request, create ECS accounts, delete the request after an account is successfully created, update any modified attributes in the database, delete a user request from the database, deny requests to become a registered user, and view any edits made. The **Profile Account** tab allows an operator to retrieve and update an existing account, change ECS passwords, delete an account, view an entire user profile, and view any modifications made to an account. The User Account Management GUI is used to perform the operator functions listed in Table 4.11.1-1 below.

Table 4.11.1-1.   Common ECS Operator Functions Performed with the User Account Management GUI (1 of 3)

Operating Function	GUI/Command	Description	When and Why to Use
retrieve request list	• Request Account tab	retrieves pending, denied, or all requests as specified	to see all requests with specific status for a user account
retrieve by status	• Click on Retrieve by Status button	set retrieving status to pending, denied, or all	set the request filter with status specified.
create a registered user account from a list of pending requests (only available at SMC)	• Request Account tab – highlight pending request – fill out information (personal, addresses, account), then click on Create Account button	creates a DCE account and a profile in Sybase	when a pending request is approved
edit a Request Account (only available at SMC)	• Request Account tab – highlight the request – edit account information, then click Apply Edit button	• updates modified attributes to the database • View Edit button allows operator to view modified information	when account information changes

***Table 4.11.1-1.   Common ECS Operator Functions Performed with the
User Account Management GUI (2 of 3)***

Operating Function	GUI/Command	Description	When and Why to Use
delete a user request (only available at SMC)	• Request Account tab − highlight user request selection, then click on Delete Request button	• deletes a request to become a registered ECS user • user request is deleted without confirmation	when a denied request no longer need in request database or when a duplicate request exist
deny a pending request (only available at SMC)	• Request Account tab − highlight the pending request then click Deny Request button	• denies a request for ECS account • notifies requester via e-mail that the request has been denied	when a security manager decides to deny the request

update an existing account (only available at SMC)	• Profile Account tab
	  − highlight the existing account to be updated
	  − modify the information (personal, addresses, account), then click Update Account button
		• updates account information in Sybase
		• View Edit button allows the operator to view which information has been modified
			when account information needs to be updated

change V0 Gateway password (only available at SMC)	• Profile Account tab
	  − select DAR information tab
	  − click on Change V0GW Password button
		• changes V0 Gateway password	as necessary to change V0 Gateway password

delete account (only available at SMC)	• Profile Account tab
	  − highlight user account
	  − click on Delete Account button
		• deletes a registered user account (DCE account and profile)
		• User account will be deleted from the database table
		• A pop up dialog box appears to confirm the operation
			when an account is no longer required by the user

view User Account Profile	• Profile Account tab
	  − highlight user account
	  − click on View Entire Profile button
		displays user's personal and account information, mailing, shipping and billing addresses	to obtain a summary of user account information on one "page"

Operating Function	GUI/Command	Description	When and Why to Use
change Aster category (only available at SMC)	• Profile Account tab – select DAR information tab – select new Aster category in the Aster Category Combo box – click on Apply Edit button	changes existing Aster category to a new one	as necessary
delete Dar privilege (only available at SMC)	• Profile Account tab – select DAR information tab – click on Apply Edit button	delete DAR privilege	as necessary
Sort list of user profile or Request Account	• click on the item label of title bar in the list box	sort user profile or request list	as necessary

4.11.1.1 Quick Start Using User Account Manager

To execute the User Account Manager GUI from the command line prompt, enter:

>EcMsAc<DAAC/SMC>RegUserGUIStart   <mode>

Where:

<DAAC> is used if the GUI is installed at a DAAC and <SMC> is used if the GUI is installed at the SMC

<mode> is the ECS mode in which to operate, e.g. OPS, TS1.

Refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series for a listing of EcMsAc<DAAC/SMC>RegUserGUIStart parameters.

4.11.1.2 User Account Manager Main Screen

The User Account Manager main screen is shown in Figure 4.11.1-1 with the Request Account tab selected. From this screen, an operator has access to both the Request Account tab and the Profile Account tab information. The menu bar allows the operator to exit the application (via the File pulldown menu) or obtain additional help through the Help pulldown menu.

4.11.1.2.1 Request Account Tab

The Request Account tab provides a window for displaying/finding/sorting user information, options to sort and retrieve request information, and five tabs that contain user information such as personal information, addresses, and account information.

Figure 4.11.1-1.   User Account Manager Main Screen

In addition, the following pushbuttons are provided for the Request Account tab:

- **Retrieve by status --** Select a status to filter accounts. Statuses are**:** pending status, denied status, or all. Default is Pending

- **Retrieve --** retrieves summary information on users requesting an account by the status selected with the **Retrieve by status** button.

- **Create Account** (available only at SMC) -- creates an ECS user account. An ECS login userID and V0 Client authenticator will be given to the user.

- **Apply Edit** (available only at SMC) -- a confirmation dialog appears before allowing the operator to update edited information to the user request database

- **Delete Request** (available only at SMC) -- a confirmation dialog appears before allowing the operator to delete a user request

- **Deny Request** (available only at SMC) -- a confirmation dialog appears before allowing the operator to deny a user request application

- **View Edit** (available only at SMC) -- used to view modifications made to Request Account personal, address and account information fields. When this button is pressed, tabs that contain fields that have been edited are highlighted. For example, Figure 4.11.1-2 shown below indicates that one or more Account Information fields have been edited. Note, however, the individual fields that have been edited will not be highlighted.

- **Add Request** (available only at SMC) -- adds a new request to the user request database (note that a user's first and last name, e-mail and phone number must be entered before the request can be added.)

Figure 4.11.1-2. Request Account with Edited Areas Highlighted

4.11.1.2.1.1 Personal Information Tab

The Personal Information area of the Request Account tab shown in Figure 4.11.1-2 is used to record personal information about the user requesting an account. Table 4.11.1-2 describes the type of information which is contained in this field.

Table 4.11.1-2. Personal Information Tab Field Description

Field Name	Data Type	Size	Entry	Description
Retrieve	Selection	n/a	optional default: Pending	retrieves summary information on users requesting an account by pending status, denied status, or all
Title	Character	5	optional, selection from dropdown list	title (e.g., Mr., Dr., Mrs., etc.)
First Name	Character	20	required	• first name of user requesting an account • retrieved from database table
MI	Character	1	optional	• middle initial of user requesting an account • retrieved from database table
Last Name	Character	20	required	• last name of user requesting an account • retrieved from database table
Email	Character	256	required	• email address of user requesting an account • retrieved from database table
User ID	Character	12	optional	• ID number of user requesting an account • retrieved from database table
Organization	Character	31	optional	• organization for a user (e.g., Hughes) • retrieved from database table
User Verification Key	Character	20	optional	• user Verification Key • retrieved from database table
Affiliation	Character	16	optional, selection from dropdown list	• government, university, etc. • retrieved from database table
Project	Character	30	optional	• EOS, etc. • retrieved from database table
Home DAAC	Character	12	required, selection from dropdown list	• DAAC that user requesting an account is assigned to • retrieved from database table
Primary Area of Study	Character	20	optional, selection from dropdown list	• research field • retrieved from database table

4.11.1.2.1.2   Address Tabs (Mailing, Shipping, and Billing)

These three tabs provide fields to fill in the address information to send mail, shipments and bills. Figure 4.11.1-3 is a sample of the Mailing Address tab. Because these tabs contain identical fields to collect the different address information, only one figure is being shown.

Figure 4.11.1-3. Mailing Address Tab

Table 4.11.1-3 describes the type of information contained in the Mailing, Shipping, and Billing Address fields.

Table 4.11.1-3.   Mailing, Shipping, and Billing Address Tab
Field Description

Field Name	Data Type	Size	Entry	Description
Address (1)	Character	32	optional	• street name address of user requesting an account, line 1 • retrieved from database table
Address (2)	Character	32	optional	• street name address of user requesting an account, line 2 • retrieved from database table
Address (3)	Character	32	Optional	• street name address of user requesting an account, line 3 • retrieved from database table
City	Character	30	optional	• city name address of user requesting an account • retrieved from database table
State/Province	Character	20	optional, selection from dropdown list	• state name address of user requesting an account • retrieved from database table
Country	Character	30	optional, selection from dropdown list	• country name address of user requesting an account • retrieved from database table
ZIP/Postal Code	Character	15	optional	• zip code of user requesting an account • retrieved from database table
Telephone	Character	22	optional	• telephone number of user requesting an account • retrieved from database table
Fax	Character	22	optional	• facsimile (fax) number of user requesting an account • retrieved from database table

4.11.1.2.1.3   Account Information Tab

The Account Information tab shown in Figure 4.11.1-4 contains information such as date that an account was created and revised, when the account expires, privilege level and media preference.
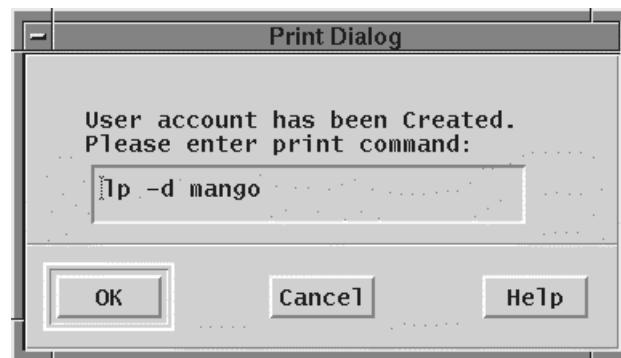
Figure 4.11.1-4. Account Information Tab

Table 4.11.1-4 provides a description of the Account Information tab fields.

Table 4.11.1-4. Account Information Field Description

Field Name	Data Type	Size	Entry	Description
Creation Date	Character	20	system generated	date that the account was created
Expiration Date	Sybase smalldatetime	see Sybase references	operator input, optional	date that the account expires
Account Number	Character	20	system generate from SmartStream Accounting Software	ECS account number
Privilege Level	Character	10	operator input, optional selection from dropdown list	user privilege level, for example: high, low
NASA User	Character	1	operator input, optional, selection from dropdown list	NASA user, "Y" or "N"
V0Gateway User Type	Character	50	required for create an account, operator input, selection from dropdown list	V0 client gateway user type, assigned by operator
V0 Gateway Password	Character	20	required for create an account, operator input	used to generate V0 gateway unique authenticator, assigned by operator
Access Privilege	Character	8	Operator input, optional selection from dropdown list	Access privilege such as access L1B data

Figure 4.11.1-5 is the Print Screen Dialog popup which appears when an account has been created. Hitting the Ok button on this dialog generates a printout of the created account.

Figure 4.11.1-5. Print Screen Dialog when Account Created

4.11.1.2.2 Profile Account Tab

The Profile Account tab shown in Figure 4.11.1-6 provides a window for displaying/ finding/sorting user information, and five tabs that contain user information such as personal information, addresses, and account information. The menu bar allows the operator to exit the application using the File pulldown menu or obtain additional help using the Help pulldown menu.
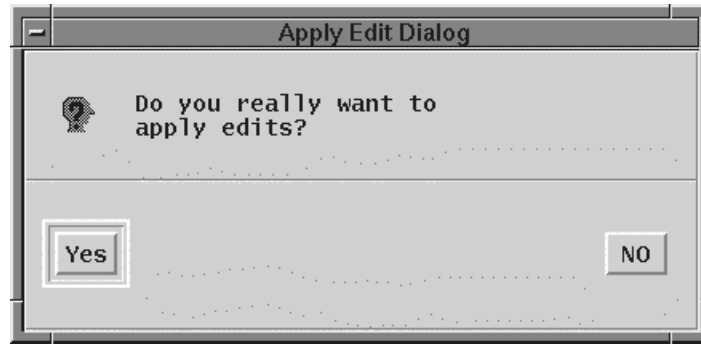
Figure 4.11.1-6. Profile Account GUI

In addition the following pushbuttons are provided:

- **Apply Edit** (available only at SMC) -- a confirmation dialog appears as shown in Figure 4.11.1-7 before allowing the operator to update the edited information to the user profile database

Figure 4.11.1-7. Apply Edit confirmation dialogue GUI

- **Change V0GW Password** (available only at SMC) -- is used to change a V0 Gateway
  password. Clicking on this button brings up the dialog shown in Figure 4.11.1-8:
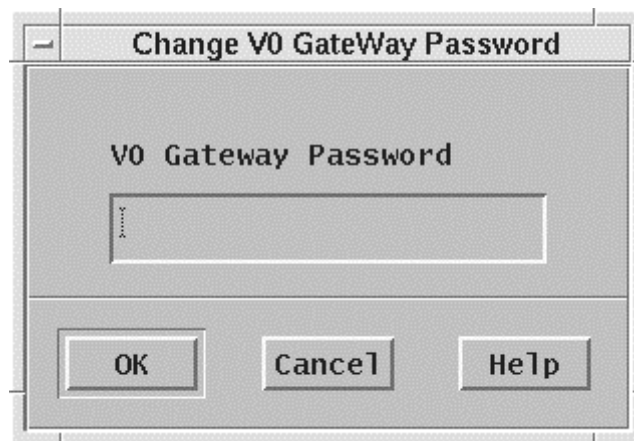
Figure 4.11.1-8. Change V0 Gateway Password Dialog

Table 4.11.1-5 describes the Change V0 Gateway Password Dialog fields.

Table 4.11.1-5.   Change DCE Password Dialog Field Description

Field Name	Data Type	Size	Entry	Description
V0 Gateway Password	Character	20	required, operator input	password to generate ECS (V0 gateway) authenticator

- **Delete Account** (available only at SMC) -- a confirmation dialog appears before allowing the operator to delete an ECS account, including its DCE account and profile from the database. This confirmation dialogue is similar to that shown in Figure 4.11.1-7.

- **View Entire Profile** – view entire user profile in a one page screen as shown in Figure 4.11.1-9. This screen contains the information from the Personal Information tab, Mailing Address tab, Shipping Address tab, and Billing Address tab.

Figure 4.11.1-9.   View Entire Profile

- **View Edit** (available only at SMC) -- is used to view modifications made to a user's account. When this button is pressed, the tabs that contain information that has been edited will be highlighted. For example, Figure 4.11.1-10 shown below indicates to the operator that one or more Mailing Address and Account Information fields have been edited. Note, however, the individual fields that have been edited are not highlighted.

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Figure 4.11.1-10. Profile Account with Edited Areas Highlighted

4.11.1.2.2.1 Personal Information Tab

The Personal Information area of the Profile Account tab shown above in Figure 4.11.1-6 is used to record personal information about an existing account. Table 4.11.1-2 describes the type of information which is contained in this field.

4.11.1.2.2.2 Address Tabs (Mailing, Shipping, and Billing)

These three tabs provide fields to fill in the address information to send mail, shipments and bills. The screens are identical to those shown in Section 4.11.1.2.1.2.

4.11.1.2.2.3 Account Information Tab

The Account Information tab contains information similar to that shown in the Request Account tab shown in Figure 4.11.1-4.

4.11.1.2.2.4 DAR Information Tab

The DAR Information Tab shown in Figure 4.11.1-11 below contains information about a DAR user.

Figure 4.11.1-11. DAR Information Tab

Table 4.11.1-6 describes the DAR Information Tab fields.

Table 4.11.1-6. Account Information Field Description

Field Name	Data Type	Size	Entry	Description
Dar expedited data	Sybase bite	see Sybase for details	Display, selection from dropdown list	True indicates user can request expedited data, false indicates user is not authorized to request expedited data.
Aster category	Character	20	optional, operator input, selection from dropdown list	Aster category is not completely defined for Release 4. It refers to Science user categories.
Delete Dar Privilege	Push button		optional, operator input	- Set Aster category to 0 - Set Dar expedited data to False - Send an email to Japan which indicate Aster category is 99 Note: 0 is a non-valid value (e.g., a deleted privilege), but 99 is sent to ASTER via Email because 0 is non-valid. See previous description.

4.11.1.3 Required Operating Environment

For information on the operating environment, tunable parameters and environment variables of The User Account Manager refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series. The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

4.11.1.3.1 Interfaces and Data Types

User Account Manager exchanges data with Sybase, using Rogue Dbtools++ as the primary interface protocol.

4.11.1.4 Databases

The User Account Manager stores user request data in table MsAcUsrRequest and user profile data in table MsAcUsrProfile in the MSS database (Sybase). The MSS database for Release 4 is described in the *Management Support Subsystem Database Design and Schema Specifications*, 311-CD-105-005. The operator may have to identify individual data fields by examination of the descriptions in the documentation.

4.11.1.5 Special Constraints

There are no special constraints to running the DAAC User Account Manager. To run the SMC User Account Manager, the operator needs to have an SMC UNIX account and must be entered in the operator permissions database at the SMC. A DAAC operator will only be able to view/modify records at the SMC that are associated with their home DAAC.

4.11.1.6 Outputs

Outputs from the Account Manager GUI are the information displayed on the screens described in Section 4.11.1.2 and error messages.

4.11.1.7 Event and Error Messages

User Account Manager issues both status and error messages to screen and log file. Both event and error messages are listed in Appendix A.

4.11.1.8 Reports

The User Account Manager application does not generate reports.

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4.11.2 Order Tracking

The Order Tracking tool provides the capability to track order status and its associated request status. DAAC operators can retrieve orders by user name, order ID, or request ID. Order and request status are displayed on a graphic interface. Operators can query orders by different states using pre-defined selections. The Order Tracking tool is used to perform the operator functions listed in Table 4.11.2-1.

Table 4.11.2-1. Common ECS Operator Functions Performed with the Order Tracking Tool (1 of 2)

Operating Function	GUI	Description	When and Why to Use
Query order	• ECS Data Order Tracking GUI • Query Order button	retrieves orders by Order ID, Request ID, or User name and displays them in the window at the bottom of the screen.	to see the status of an order or its associated requests
Filter orders	• ECS Data Order Tracking GUI • Filter by Status toggle buttons • Select All and Deselect All pushbuttons	• orders can be filtered by their status (e.g., pending, canceled) • orders can be filtered using all status selections • filter selections can be cleared	to narrow the search for orders to what the operator wants
Update order	• ECS Data Order Tracking GUI • Update Order button	Update status and description of selected order	to update the status and description of order
Shipping information	• Query Requests button from the ECS Data Order Tracking GUI • Shipping Information GUI	displays shipping information for an order	to determine the destination for an order
Query request	• Query Requests button on ECS Data Order Tracking GUI	retrieves requests for an order	to see the status of a request
Delete request	• Delete Request button from the ECS Data Order Tracking GUI	delete a request of the order	to delete the request for an order
Update request	• Update request button from the ECS data Order tracking GUI	update the status and description of a request	update the status and description for a request

***Table 4.11.2-1.   Common ECS Operator Functions Performed with the
Order Tracking Tool (2 of 2)***

Operating Function	GUI	Description	When and Why to Use
Verify user selection	• select from user list • Verify User Selection GUI	displays user names and addresses	to verify that the user selected is correct
Sort list of user orders or user requests	• click on the item label of title bar	sort user order profile or request list	

4.11.2.1 Quick Start Using Order Tracking

To start the Order Tracking GUI from the command line prompt, enter:

>**EcMsAcOrderGuiStart <mode>**

<mode> is the ECS mode in which to run, e.g., OPS, TS1**.**

Refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series , for a listing of EcMsAcStartOrder_GUI

4.11.2.2 ECS Data Order Tracking Main Screen

The main screen, shown in Figure 4.11.2-1, allows the operator to retrieve an order by user name, order ID, or request ID.

Figure 4.11.2-1.   ECS Data Order Tracking GUI

Table 4.11.2-2 describes the ECS Data Order Tracking fields.

Table 4.11.2-2. Order Tracking Main Screen Field Descriptions

Field Name	Data Type	Size	Entry	Description
Last Name	character	20	optional	user's last name
First Name	character	20	optional	user's first name
Order ID	character	10	optional	unique order id
Request ID	character	10	optional	unique request id

The menu bar gives the operator the following selections: File, Edit and Help.

- **File** – the only option available under this pulldown menu is to exit the Order Tracking tool

- **Edit** – provides "Clear Query Parameters" options to let user clean the all screen input.

- **Help** – brings up help question mark which can point to different button.

The user can filter an order by status. The **Filter by Status** choices include:

- Pending

- Operator Intervention

- Staging

- Transferring

- Waiting for Shipment

- Shipped

- Aborted

- Canceled

- Terminated

- Subsetting

- Subsetting Staging

- Prep for Distribution

- SDSRV Staging

- Queued

- Waiting for data

- Waiting for processing

- Being processed

- Completed processing

- Expired

- Awaiting L1B

- L1B received

- Finished

- The **Select All** button selects all items listed above

- The **Deselect All** button removes toggle buttons that had been selected

In addition, the following pushbuttons are available:

- The **Query Orders** button will search for orders based upon the parameters that have been selected and display them in the scrollable window at the bottom of the screen. If only one order is found, all the requests related to this order will also be displayed in the Request List scrollable window.

- The **Update Order** button will update status and description of the order.

- The **Show Shipping Information** button brings up the Shipping Information GUI (see section 4.11.2.2.2)

- The **Query Request** button brings up the request list to the Request List scrollable window. The function is similar to the **Query Orders** button**.**

- The **Delete Request** button will delete request selected.

- The **Update Request** button will update status and description of the request.

4.11.2.2.1 Verify User Selection

When retrieving orders by user name, it's possible for identical user names to be found in the database. If the name selected is not unique in the database, the Verify User Selection screen shown in Figure 4.11.2-2 is displayed allowing the user to pick from duplicate user names.
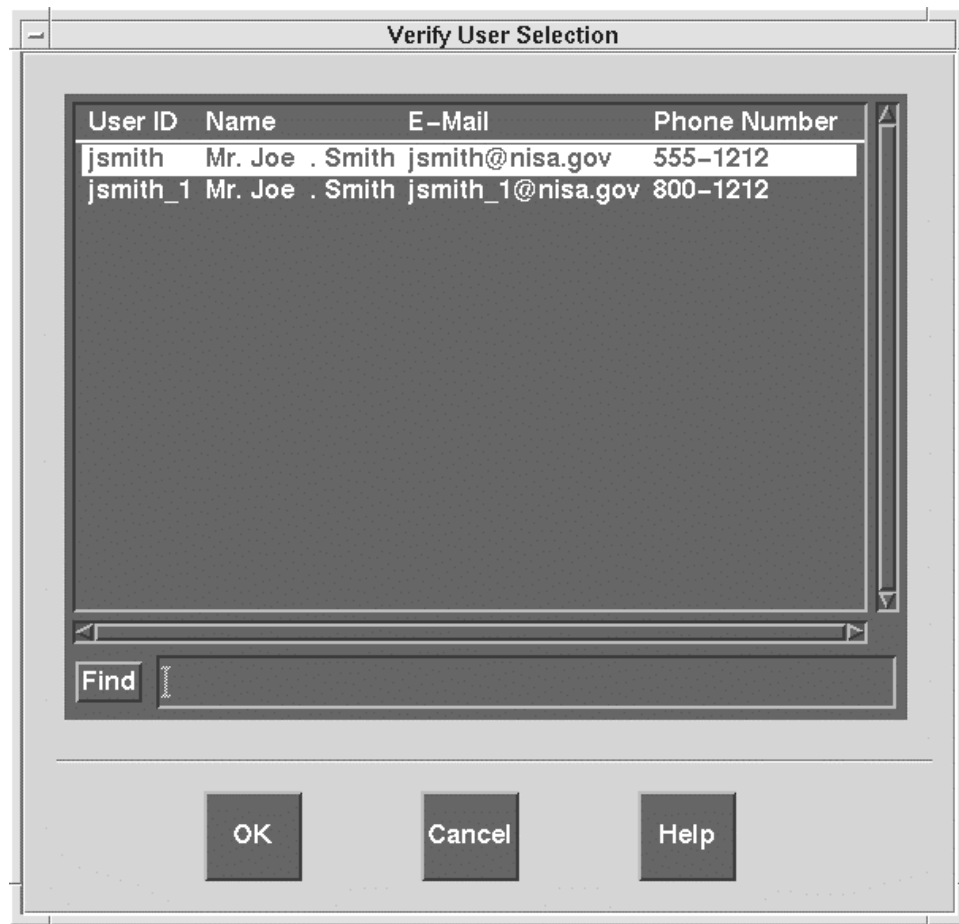
Figure 4.11.2-2. Verify User Selection GUI

In addition, the following pushbuttons are provided:

- The **Find** button allows the operator to search for different names

- The **OK** button accepts the highlighted section, retrieves order information and returns to main screen

- The **Cancel** button quits the Verify User Selection screen

- The **Help** button brings up help information box

4.11.2.2.2 Shipping Information Screen

The Shipping Information screen shown in Figure 4.11.2-3 provides shipping address information for an order when user clicks on the Shipping Information button.

Figure 4.11.2-3. Shipping Information GUI

Table 4.11.2-3 describes the Shipping Information GUI fields.

Table 4.11.2-3. Shipping Information GUI Field Description

Field Name	Data Type	Size	Entry	Description
Name	character	41	system generated	who request the order
Order ID	character	10	system generated	unique order id
Shipping Address	character	139	system generated	shipping address for the order
Phone	character	22	system generated	phone number
Email	character	64	system generated	e-mail address
Fax	character	22	system generated	fax number

In addition the following pushbuttons are provided:

- **Close** – exits the screen and returns to the ECS Order Tracking GUI

- **Help** – brings up help information box

4.11.2.3 Required Operating Environment

For information on the operating environment, tunable parameters and environment variables of the Order Tracking Tool refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series. The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

4.11.2.3.1 Interfaces and Data Types

Order data comes from the V0 Gateway, V0 Client and database server.

4.11.2.3 Databases

The Order Tracking tool uses the MSS database installed at each DAAC. The database for Release 4 is described in the *Management Support Subsystem Database Design and Schema Specifications,* 311-CD-105-005. The operator may have to identify individual data field by examination of the descriptions in the document. The following tables are stored in the Sybase database: EcAcOrder, EcAcRequest, EcAcOrderId and EcAcRequestId. All parameters are generated and monitored by Sybase and cannot be modified by the operator.

4.11.2.5 Special Constraints

None.

4.11.2.6 Outputs

Outputs from the Order Tracking GUI are the information displayed on the screens described in this section (4.11.2) and error messages. Errors will be logged to a log file using process framework.

4.11.2.7 Event and Error Messages

The ECS Order Tracking GUI reports both status and error messages to the operator, and are listed in Appendix A.

4.11.2.8 Reports

The Order Tracking application does not generate reports. Reports can be produced using SQR Report Writer (see Section 4.1.6, "SQR Report Writer").

4.11.3 Data Dictionary Maintenance

The Data Dictionary Maintenance Tool (DDMT) GUI allows operators to perform common tasks associated with the upkeep of the Data Dictionary databases. The Data Dictionary is a large relational database, consisting of tables which provide information about the data collections making up the ECS system. Examples of the types of information stored in the Data Dictionary include the time and locations of data gathered, sensors and instruments used to gather the data, and locations where the data is stored. The DDMT GUI provides operators the capability to query the Data Dictionary Database in order to create, ingest, view, modify, and export data types.

The Tool is used to perform the following operator functions listed in Table 4.11.3-1

Table 4.11.3-1. Common ECS Operator Functions Performed with DDMT

Operating Function	Command/Script or GUI (Tab)	Description	When and Why to Use
Modify Data Dictionary Database	Modify Data	• Select the data type(*) • Edit the data type	To find and modify items or groups of related items in Data Dictionary database, update specific attributes, and create links to other items in the database.
Check and ingest Valids (Import Valids)	Import Valids File	To check the collection descriptions for any errors and, after correction, Ingest them into the Data Dictionary database.	To gather V0 attribute definitions to be used when mapping V0 terms to ECS terms
Map Attributes	Map Attributes/Keywords	To translate non-ECS terminology to ECS	When non-ECS terminology must be reconciled with ECS terminology.
Export Valids	Export Valids File	To send description of ECS data collections to agencies outside of ECS system.	To create valids files for delivery to external systems such as V0

(*) In this context, data type is a group of related data dictionary items such as Attributes, Collections, etc.

4.11.3.1 Quick Start Using Data Dictionary Maintenance

Before DDMT is used, the Data Dictionary Server must be up and running.

To execute DDMT from the command line prompt, enter:

/usr/ecs/<mode>/CUSTOM/bin/DMS/EcDmDdMaintenanceTool.csh <mode>

Where:

<mode> is the ECS mode under which the program is to run, e.g., OPS, TS1.

The .csh file is the UNIX "shared" file containing parameters for the tool.

4.11.3.2 DDM Main Screen

The DDMT main screen provides access to the DDMT function tabs. The DDMT GUI tool is broken down into four tabs: Modify Data, Import Valids File, Map Attributes/Keywords, and Export Valids File. The Modify Data tab is the default tab.
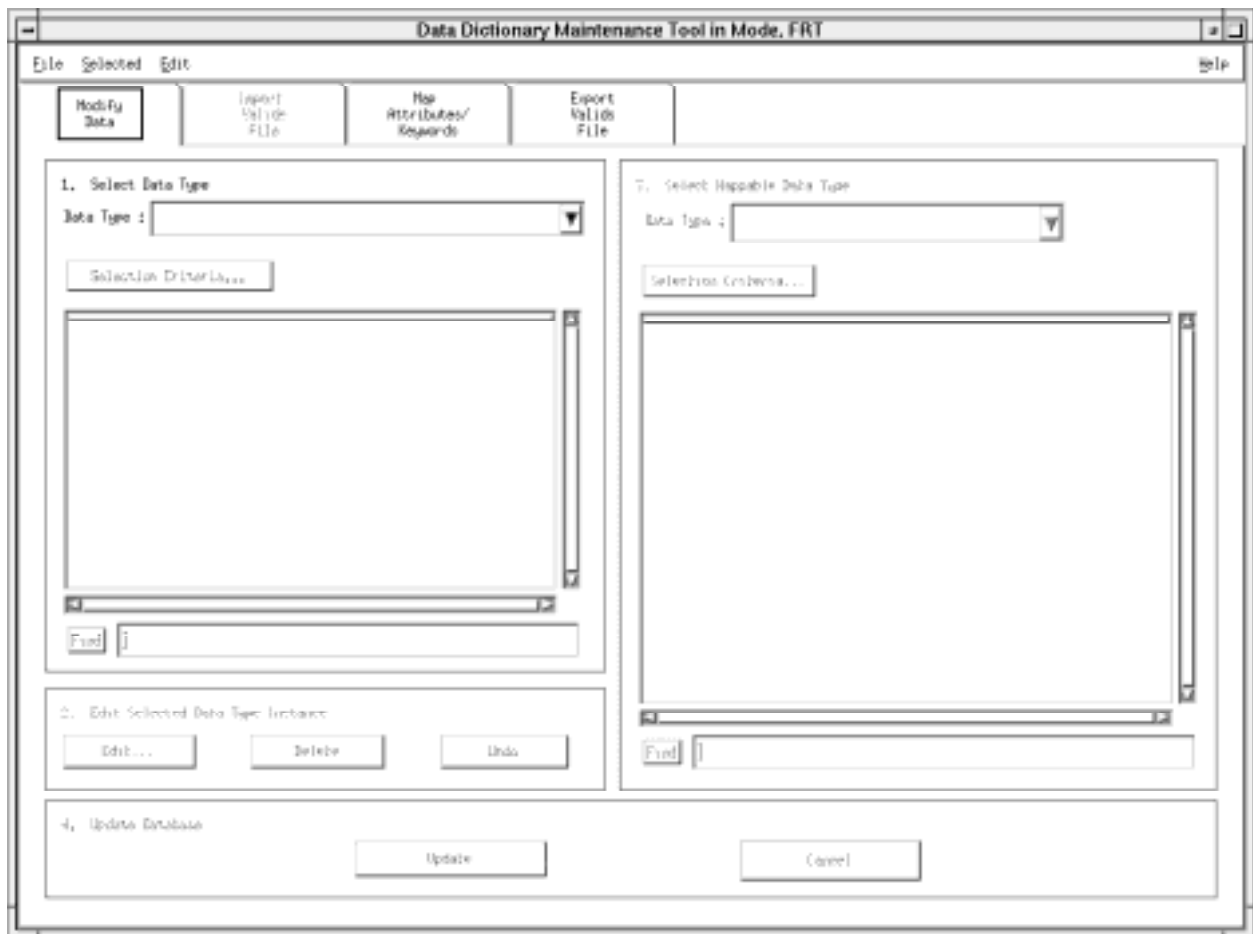
Figure 4.11.3-1. Data Dictionary Maintenance Main Screen Showing the Modify Data Tab

The operator can select from the menu bar items at the top of the DDMT window for getting help and activating less-frequently used secondary functions. The menu bar capability is available on all DDMT GUI screens. The following menus are available:

- **File -** provides a short cut for the users. This menu contains the
  following items:

  - New Attribute -   Brings up the Attribute Editor screen, through which a new
  attribute can be inserted into the DataDictionary database.

  - Open -   Desensitized.

  - Save and Save As - Desensitized.

  - Exit - Exit application

- **Selected** - provides operations to be performed. This menu contains the following
  options:

  – **Deselect All**   - Desensitized.

  – **Select All**   - Desensitized.

  – **Edit**   - Desensitized.

- **Edit -** allows for pasting and cutting of text. This menu contains the following options:

  – **Undo**   : Available to undo the previous action while a secondary keyword
  is   selected.

  – **Cut**   : Desensitized.

  – **Copy**   : Desensitized.

  – **Paste**   : Desensitized..

  Clear All   : Clears all the list boxes and performs the first primary attribute
  database query.

  – **Delete**   : Desensitized.

- **Help** - displays general and context sensitive help. This menu contains the following:

  – **On Help** -   provides detailed help on using help.

  – **On context -**   Displays help for the control/field selected after activating this
  button.

  – **On window -**   Displays help for the window selected after activating this
  button.

  – **On Keys** -   provides help on keyboard and mouse usage, and general
  help on interacting with user interface components.

  – **Index**   Not available for Release 5.

− **Tutorial**   Not available for Release 5.

  − **On Version**   Not available for Release 5.

Tabs - the Tabs open DDMT function screens (tabs) that are used to perform the functions associated with the tab title. These functions are described below in the sections for the tabs.

The data fields on the DDMT Main Screen are components of the individual tabs.

4.11.3.2.1 Modify Data Tab

The Modify Data tab allows the operator to edit ECS Core Attributes. Upon selecting 'Attribute' from the Data Type drop down list (Figure 4.11.3-1), the Selection Criteria button becomes sensitized. When this button is pushed, the Database List (Attributes) screen (Figure 4.11.3-2) is displayed.
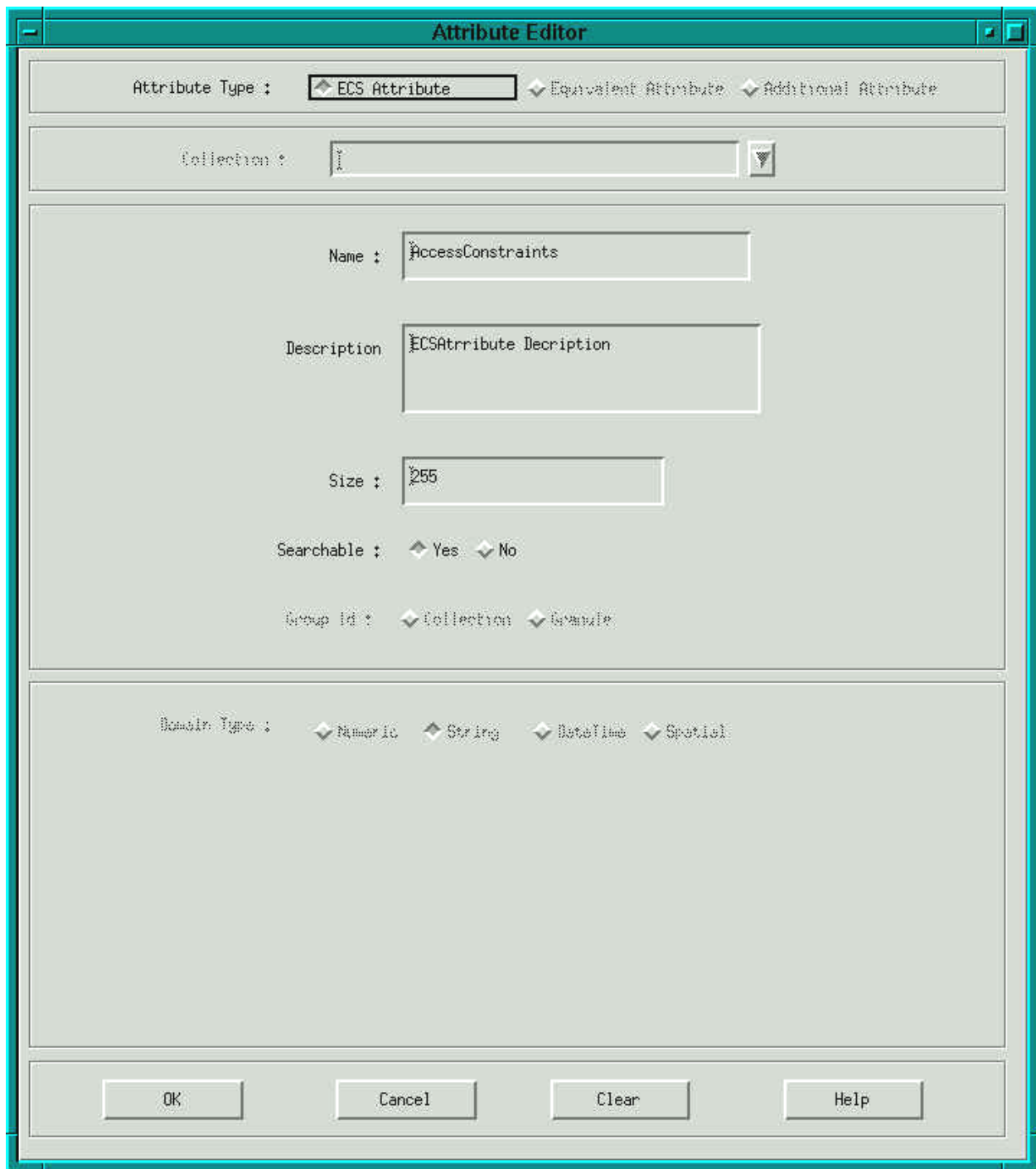
Figure 4.11.3-2.   Database List (Attributes) Screen

4.11.3.2.1.1 Editing ECS Core Attributes

On entering/setting the values for the fields appropriately, based on what attribute the operator would like to edit, and clicking the OK button at the bottom, a list of attributes is displayed on the Main Screen (Figure 4.11.3-3). The operator after selecting an attribute can click an edit or delete button. The Attribute editor screen (Figure 4.11.3-4), which is displayed when the operator clicks on the edit button, allows the operator to edit the values of the attribute. To delete an attribute the operator has to click on the delete button. The edited or the deleted attributes are not written to the database until the update button is clicked. The operator can either undo a single action by clicking on the undo button, or can undo all the action by clicking on the cancel button. The attribute(s) edited can be committed to the database by clicking the update button.
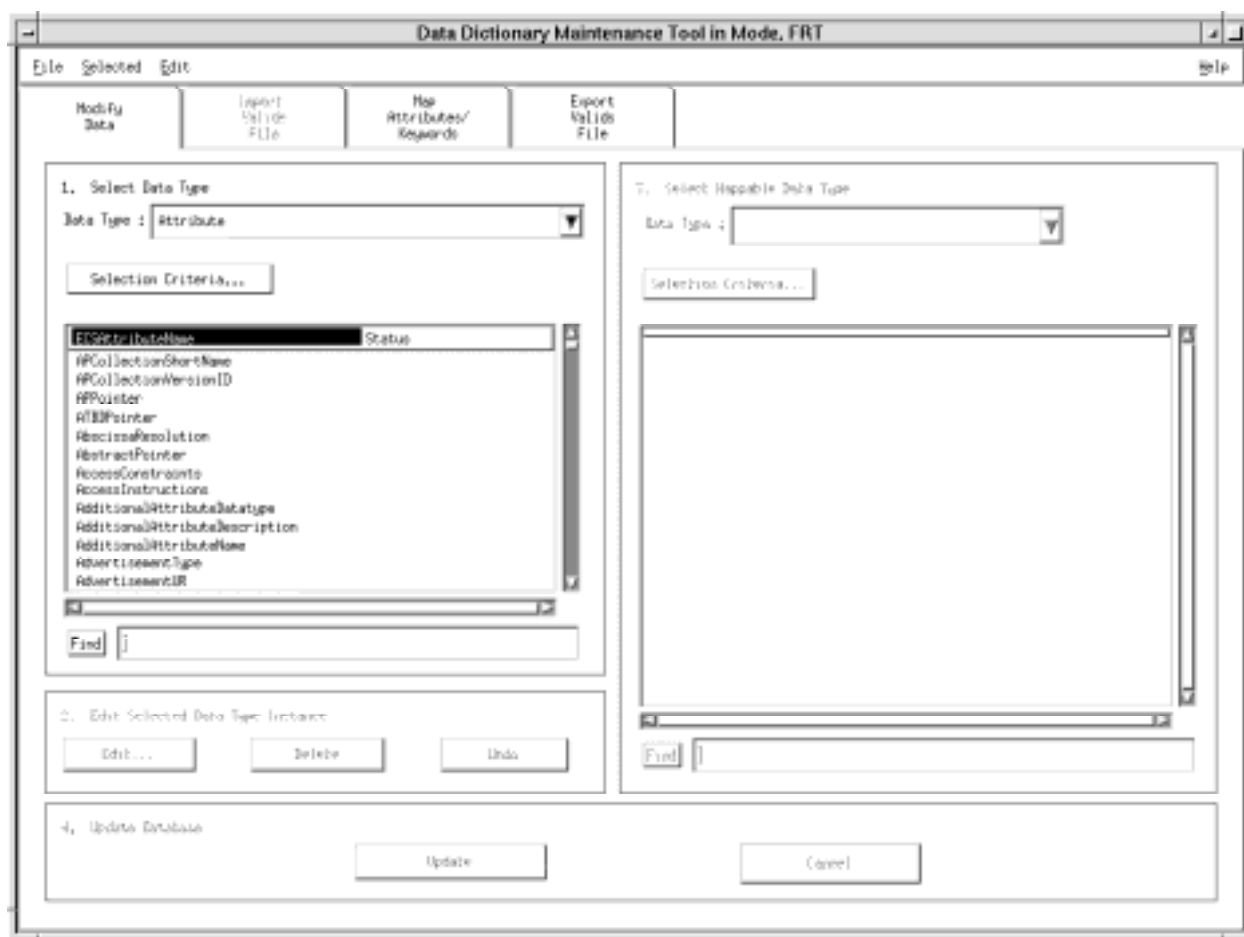
Figure 4.11.3-3. Modify Data Tab with Attribute List

Figure 4.11.3-4. Attribute Editor Screen

4.11.3.2.2 Import Valids File Tab

Figure 4.11.3-5 shows the Import Valids File tab of the Data Dictionary Maintenance window.

Figure 4.11.3-5.   Import Valids File Tab

This screen is used to check the database and ingest valids files. The information about new collections will be sent to the operator in the form of a file containing collection descriptions. This will be a "Valids" file, which contains the information about one or more collections. This GUI allows the operators to read in the files and run an error checking function. If there are no errors, the collection description will be ingested into the Data Dictionary. If any errors are found, a list of all errors will be saved to file to be sent to the source for the valids and keyword definitions files, so that corrections can be made. Figure 4.11.3-5 shows the Read Valids File tab.

Click on the Valid File Syntax **Check** button to check the file for syntactic errors.

The Ingest Errors window will display any error that occurred during error checking function. If there are any fatal errors within the file syntax, the Update button will not be sensitized. This means that the operator can not ingest the file. The operator can select the Save button to save the list of all errors to a file. If there are no errors, the Update button will be sensitized and the Valids File can be ingested into the database by clicking on that button.

The Import Valids File tab provides the following dropdown menu options:

- **File -** provides a short cut for the expert users. This menu contains the following items:

  New - Desensitized.

  − **Open** - Opens the specified file only in the Read Valids File.

  − **Save and Save As** - Saves the Error Dialog to the specified file, without closing the file..

  − **Exit** - Exit application

- **Selected** - provides operations to be performed. This menu contains the following options:

  − **Deselect All** - Desensitized.

  − **Select All** - Desensitized.

  − **Edit** - Desensitized.

- **Edit -** allows for pasting and cutting of text. This menu contains the following options:

  − **Undo** : Available to undo the previous action while a secondary keyword is selected.

  − **Cut** : Desensitized.

  − **Copy** : Desensitized.

  − **Paste** : Desensitized..

  −

  Clear All : Clears all the content of the field within the tabs.

  − **Delete** : Desensitized.

- **Help** - displays general and context sensitive help. This menu contains the following:

  − **On Help** - provides detailed help on using help.

−   **On context -**   Displays help for the control/field selected after activating this button.

−   **On window -**   Displays help for the window selected after activating this button.

−   **On Keys** -   provides help on keyboard and mouse usage, and general help on interacting with user interface components.

−   **Index**   Not available for Release 5.

−   **Tutorial**   Not available for Release 5.

−   **On Version**   Not available for Release 5.

The detailed description of this tab is in the Table 4.11.3-2.

Table 4.11.3-2.   The Import Valids File Field Description

Field Name	Data Type	Size	Entry	Description
Valids File	TEXT	100	Keyboard	Valids file to be ingested by tool
Ingest Error	TEXT	N/A	NOT INPUT	Instance of syntax error.
Available Service	TEXT	N/A	NOT INPUT	A list of available services for collection.
Error File	TEXT	100	Keyboard	Output file for errors in input file syntax

The operator can specify in the Valid File window, the ASCII valid file that needs to be inserted in the Data Dictionary Database. Or by clicking the Browse button which brings up the File Select Pop-up shown in Figure 4.11.3-6. The detailed field description of this screen is in Table 4.11.3-3.
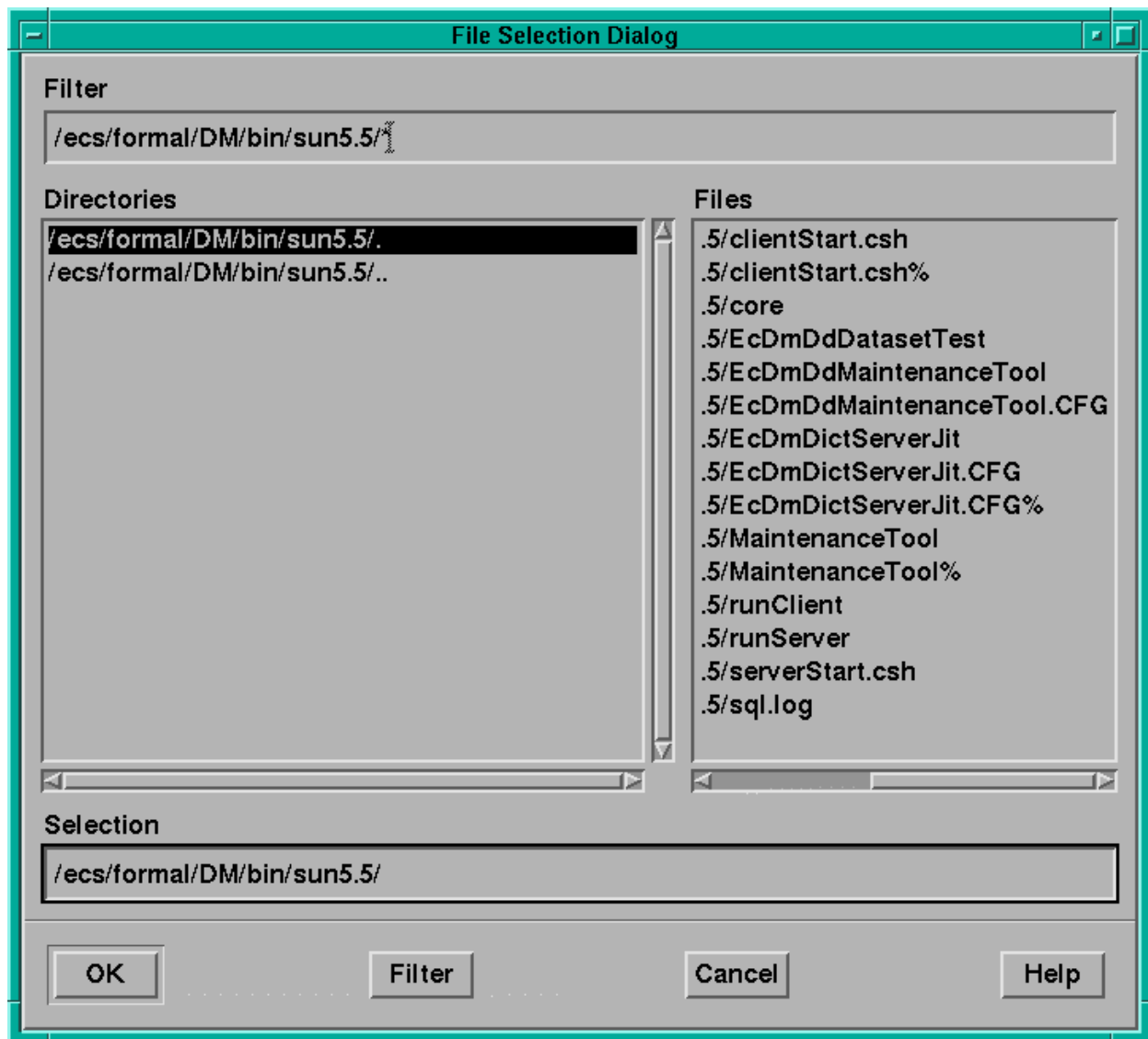
Figure 4.11.3-6. File Select Pop-up

The operator can use the Filter window to limit the selected files to be displayed. Select the desired directory and the corresponding file form the Directories and Files window. The selected file will be displayed on the Selection window. By clicking OK button the File Selection Dialog will pop down and selected file will be displayed in the Valids File window.

Table 4.11.3-3.   The File Selection Field Descriptions

Field Name	Data Type	Size	Entry	Description
Filter	TEXT	100	Keyboard	wildcard search criteria
Directories	LIST	N/A	Click	select directory to browse
Files	LIST	N/A	Click	select file to read
Selection	TEXT	100	Keyboard	select file to read

4.11.3.2.3 Map Attributes/Keywords Tab

The Data Dictionary database contains descriptions of collections from ECS and sources outside ECS. All ECS collections use a standard set of terms to describe their data, but non-ECS collections may contain non-ECS terminology. The Map Attributes/Keywords tab allows the operator to set up an association between ECS and non-ECS attributes and keywords. An operator can choose non-ECS terms from a list and map that to the correct corresponding ECS term. Figure 4.11.3-7 shows the Map Attribute GUI.
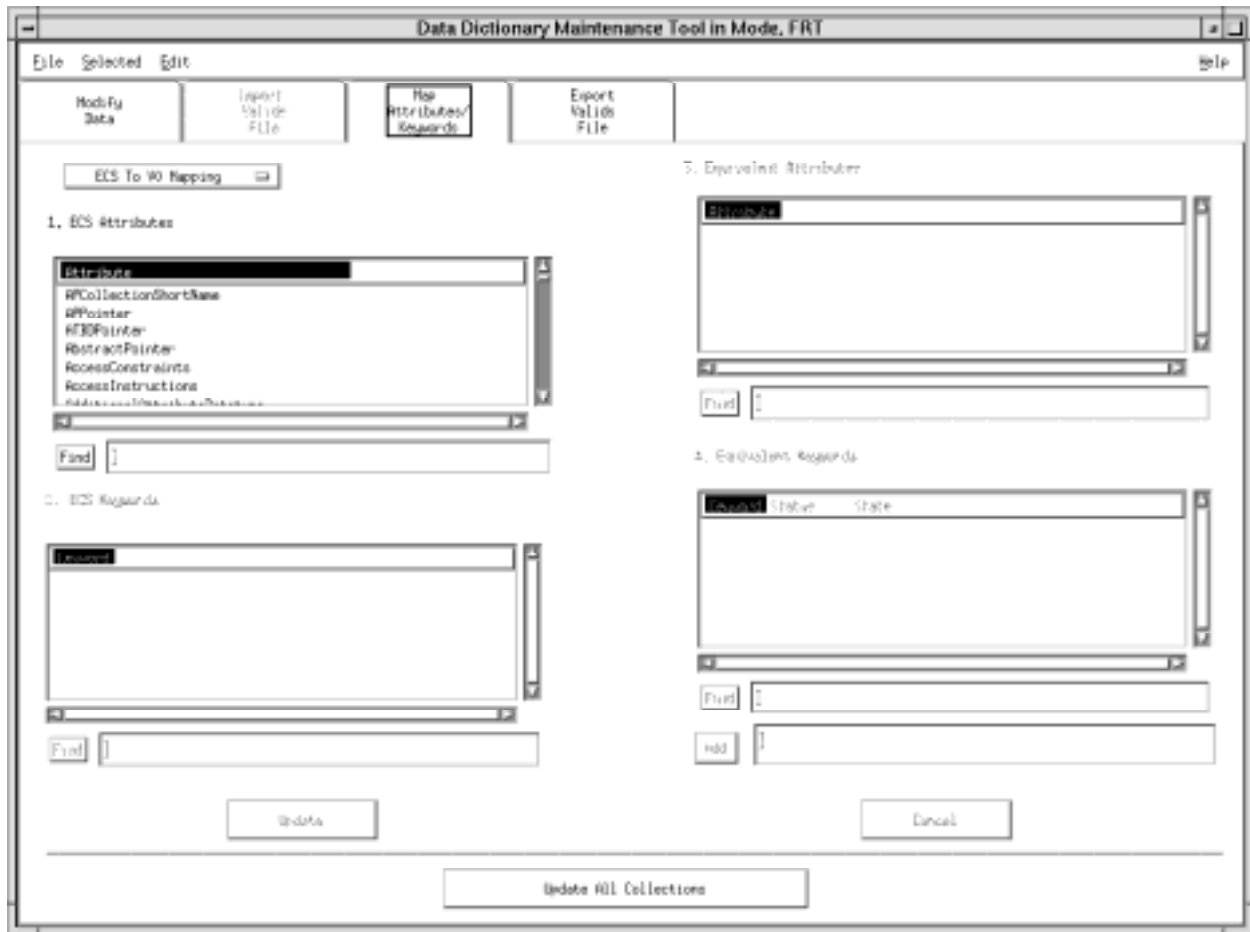
Figure 4.11.3.7.   Map Attributes/Keywords Tab

Once the operator is satisfied with the mappings they have set up they may commit these mappings to the database using the update button. To relate these mappings to collections the operator should click on the update all collections button.

The Map Attributes/Keywords tab provides the following dropdown menu options:

- **File -** provides a short cut for the expert users. This menu contains the following items:

    New - Desensitized.

    − **Open** - Desensitized.

    Save and Save AS. - Desensitized.

    − **Exit** - Exit application

- **Selected** - provides operations to be performed. This menu contains the following options:

    − **Deselect All** - Deselects all Attributes and Keywords displayed on the tab.

    − **Select All** - Selects all Attributes and Keywords displayed on the Tab.

    − **Edit** - Desensitized.

- **Edit -** allows for pasting and cutting of text. This menu contains the following options:

    − **Undo** : Desensitized.

    − **Cut** : Desensitized.

    − **Copy** : Desensitized.

    − **Paste** : Desensitized..

    Clear All : Clears all the content of the field within the tabs.

    − **Delete** : Desensitized.

- **Help** - displays general and context sensitive help. This menu contains the following:

   − **On Help** - provides detailed help on using help.

    − **On context -** Displays help for the control/field selected after activating this button.

    − **On window -** Displays help for the window selected after activating this button.

    − **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.

- **Index** Not available for Release 5.

- **Tutorial** Not available for Release 5.

- **On Version** Not available for Release 5.

Table 4.11.3-4 describes the fields on the Map Attributes/Keywords tab.

Table 4.11.3-4. The Map Attributes/Keywords Field Description

Field Name	Data Type	Size	Entry	Description
Attributes	TEXT	N/A	Click	An Ecs of non-Ecs attribute
Keyword	TEXT	N/A	Click	An Ecs of non-Ecs keyword

4.11.3.2.4 Export Valids File Tab

The Export Valids File tab shown in Figure 4.11.3-8 allows operators to send descriptions of data collections that exist in the database to outside of the ECS system. Valids files are used for this purpose. This tab allows the operators to select the desired collection and specify the name/locations for the file to be written.
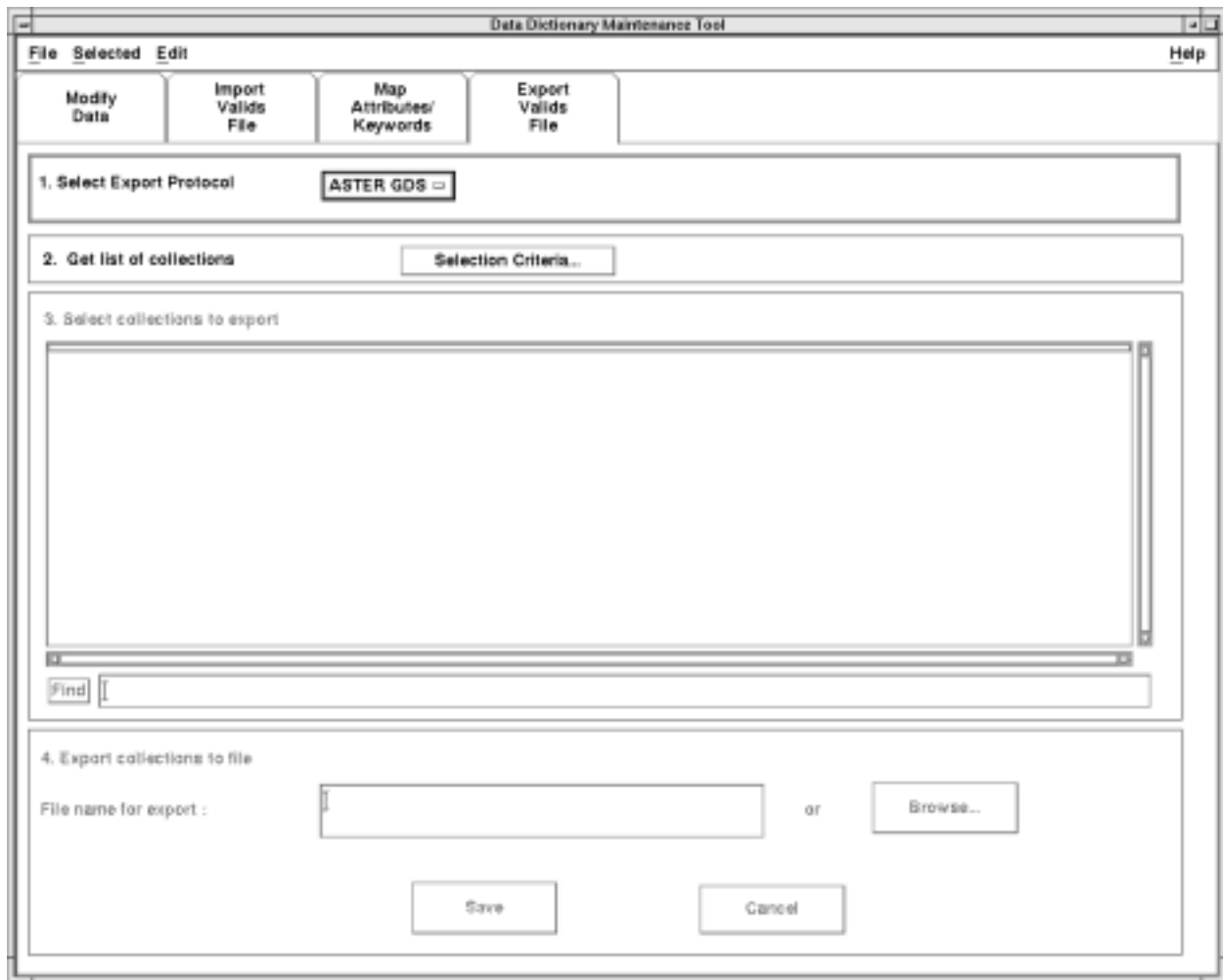
Figure 4.11.3-8. Export Valids File Tab

Clicking on the Selection Criteria button brings up the Database list dialog. By clicking on the OK button a list of collections will be displayed on the Collections List. By double clicking on the collection(s) that the operator wishes to export, export status is attached to the collection(s). Then the operator can specify where to write the valid file to, in the Valid File text box, or by clicking the Browse button the operator can choose the location/path. By clicking on the Save button the valids are written to the specified file.

The Export Valids File tab provides the following dropdown menu options:

- **File -**   provides a short cut for the expert users. This menu contains the following items:

   New -   Desensitized.

   – **Open** -   Desensitized.

Save and Save AS.. - Saves the Error Dialog to the specified file, without closing the file..

- − **Exit** - Exit application

- • **S**elected- provides operations to be performed. This menu contains the following options:

  - − **Deselect All** - Desensitized.

  - − **Select All** **-** Desensitized.

  - − **Edit** **-** Desensitized.

- • **E**dit **-** allows for pasting and cutting of text. This menu contains the following options:

  - − **Undo** **:** Available to undo the previous action while a secondary keyword is selected.

  - − **Cut** **:** Desensitized.

  - − **Copy** : Desensitized.

  - − **Paste** : Desensitized..

  - **Clear All** **: C**lears all the content of the field within the Tabs.

  - − **Delete** **:** Desensitized.

- • **H**elp - displays general and context sensitive help. This menu contains the following:

  - **On Help** - provides detailed help on using help.

  - **On context -** Displays help for the control/field selected after activating this button.

  - **On window -** Displays help for the window selected after activating this button.

  - − **On Keys** - provides help on keyboard and mouse usage, and general help on interacting with user interface components.

  - **Index** Not available for Release 5.

  - **Tutorial** Not available for Release 5.

  - **On Version** Not available for Release 5.

Table 4.11.3-5 describes the fields on the Export Valids File screen.

Table 4.11.3-5. The Export Valids File Field Descriptions

Field Name	Data Type	Size	Entry	Description
Collections	LIST	N/A	Click	List of possible collections
Collection to Write	LIST	N/A	Click	List of collections to export
Valids File	TEXT	100	Keyboard	File name for generated valids file

4.11.3.2.5 Release Collection Tab *(not part of drop 5 release)*

The Release Collection function is not be available in the ECS Release 5.

4.11.3.2.6 Create Multiple Collection Tab *(not part of drop 5 release)*

The Create Multiple Collection function is not available in the ECS Release 5.

4.11.3.3 Required Operating Environment

DDMT runs on the dms1 host

For information on the operating environment, tunable parameters and environment variables of DDMT refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series. The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

4.11.3.3.1 Interfaces and Data Types

DDMT exchanges data of various types through interfaces with Data Dictionary Server which runs in the background.

4.11.3.4 Database Schema

The DDMT process uses the Data Management database. Documentation for this database for Release 4 is ECS document 311-CD-102-005*, Data Management Database Design and Schema Specifications (Draft).* The operator may have to identify individual data fields by examination of the descriptions in the documentation. Some data may be directly accessible through the database software.

4.11.3.5 Special Constraints

Data Dictionary Server must be running

4.11.3.6 Outputs

Output from the DDMT consists of the data displayed on the screens described in Section 4.11.3.2, database updates or additions to the database referenced in Section 4.11.3.4, and error and event messages described in Section 4.11.3.7

4.11.3.7 Event and Error Messages

DDMT uses the ECS Process Framework error logging.

4.11.3.8 Reports

None.

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4.11.4 Subscription Editor

The Subscription Editor allows an operator to manually enter subscriptions to the IDG Subscription Server. The ability to submit subscriptions automatically has been integrated into the Production Request Editor. This tool allows the operations staff flexibility in submitting subscriptions. The Subscription Editor also has the ability to register subscriptions on behalf of the SCF user as well as the PDPS production system (subscription manager). But this functionality will also be available in the more user-friendly IDG Subscription tool (see Section 4.12.9 "Subscription Server"). Submitting/Withdrawing subscriptions is functionally separated from the receipt of subscription notifications; the reception of the notification is the responsibility of the Subscription Manager.

The subscriptions that are built are slightly different for the two classes of users. Those for the Subscription Manager send notifications via the IDG asynchronous message passing mechanisms using a logical queue name defined in the configuration file for this tool. The logical queue name is a DCE CDS directory entry which is the destination for the IDG asynchronous notification, and to which the Subscription Manager registers interest in arriving messages.

The subscriptions built for the other class of users send notifications by e-mail. When building a subscription for an end user, information is entered about the client who will receive the notification is entered by the operator. The ECS user-id has to be supplied for the SCF user; this is used within the IDG subscription server to determine an e-mail account to which notification is sent.

A subscription is built from an advertisement of the subscription. The advertising subsystem maintains a list of all the "events" which may be subscribed to within the ECS system. The PDPS production system is basically interested in INSERT events for ESDTs (to be made aware when new data arrive into the ECS). The events are created/defined during the process of adding an ESDT to the Science Data Server; the events are actually advertised by the IDG subscription server(s). SCF users may browse the list of subscribable events from the Earth Science Online Directory. The Subscription Editor software accesses the advertisements for subscribable events by searching on their "internal service name" within the advertising database.

PDPS Subscription Editor is used to perform the operator functions listed in Table 4.11.4-1.

Table 4.11.4-1.   Common ECS Operator Functions Performed with PDPS Subscription Editor

Operating Function	Command	Description	When and Why to Use
Start *PDPS Subscription Editor* program	**EcPlSubsEditStart**	This will bring up the *PDPS Subscription Editor*	To manually enter or cancel subscriptions.
manually enter subscriptions to the IDG Subscription Server	**EcPlSubsEditStart**	The program will query the operator for the input parameters necessary to submit the subscription	When the Subscription Manager or SCF user requires a subscription to be manually entered.
manually cancel subscriptions to the IDG Subscription Server	**EcPlSubsEditStart**	The program will query the operator for the input parameters necessary to cancel the subscription	When the Subscription Manager or SCF user requires a subscription to be manually canceled.

4.11.4.1 Quick Start Using Subscription Editor

To execute PDPS Subscription Editor from the command line prompt use:

> **EcPlSubsEditStart   <mode> [<APP_ID>]**

The **mode** parameter specifies the mode the program is to run in. The Subscription Editor can run in any mode. Modes are established by the DAAC Operations staff.

The optional **APP_ID** parameter establishes a unique identifier for the running program. It is an integer. If the value of a running program is selected the script will terminate with a message indicating another APP_ID must be chosen.

Refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series, for a listing of **EcPlSubsEditStart.**

4.11.4.2 Subscription Editor Main Screen

There is no GUI or CHUI for the PDPS Subscription Editor. The DAAC operations user interacts with the Subscription Editor by responding to the following prompts put out by the program.

> *Would you like to view the complete list of ESDTs known to PDPS? (y/n):*
> *Is recipient PLS Subscription Manager (Y/N):*
> *if recipient is PLS Subscription Manager - Y:*
> > *Enter ESDT data type name (as appears in the PDPS database):*
> > *Override the provider [provider name] defined for this ESDT (Y/N):*
> > *Submit (S)/Withdraw(W):*
> *if recipient is not PLS Subscription Manager - N:*
> > *Enter user id:*
> > *Enter email address (for subscription notification):*
> > *Enter ESDT data type name (as appears in the PDPS database):*
> > *Override the provider [provider name] defined for this ESDT (Y/N):*
> > *Submit (S)/Withdraw(W):*

Specify the Internal Service Name
Enter 'd' for default Insert Event service.

4.11.4.3 Required Operating Environment

The PDPS Subscription Editor is run on the SUN.

For information on the operating environment, tunable parameters and environment variables of PDPS Subscription Editor refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series . The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

Table 4.11.4-2 identifies the supporting products this tool depends upon in order to function properly.

Table 4.11.4-2.   Support products for PDPS Subscription Editor

Interface (facility)
IDG Subscription Server
IOS Advertising Server

4.11.4.3.1 Interfaces and Data Types

Table 4.11.4-3 identifies Subscription Editor interfaces.

Table 4.11.4-3.   PDPS Subscription Editor Interfaces

Interface (facility)	Type Interface Protocols	Description	Comments
MSS	Process Framework	Used for error logging	Via ECPfClient
IOS	OODCE/Client	Obtain advertisements describing the events for subscriptions	Advertising database. Events are managed by DSS.
IDG	OODCE/Client	Cancel or submit subscriptions	Subscription Server
PDPS	Sybase Client	Access the PDPS database	

4.11.4.4 Databases

The PDPS Subscription Editor uses the PDPS database, the IDG Subscription Server database, and the IOS Advertising database. The PDPS database for Release 4 is ECS document 311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*. The IDG Subscription Server database is 311-CD-109-005, *Subscription Server Database Design and Schema Specifications*. The IOS Advertising database is 311-CD-104-005, *Interoperability Subsystem (IOS) Database Design and Schema Specifications.*

4.11.4.5 Special Constraints

ESDTs must have been registered with PDPS through the SSIT process. The ESDTs and their associated events must be installed into the SDSRV, the IDG's Subscription Server, and the IOS's Advertising Server.

4.11.4.6 Outputs

The PDPS Subscription Editor output consists of data returned to the command line interface, error messages as described in Section 4.11.4.7, and updates to the PDPS and IDG subscription server database.

4.11.4.7 Event and Error Messages

The PDPS Subscription Editor program issues error messages which are listed in Appendix A.

4.11.4.8 Reports

None.

4.11.5 Database Installation and Maintenance Scripts

A set of eleven standard database scripts have been created for the DDIST, IOS, INGEST, MSS, PDPS, SDSRV, STMGT, and SUBSRV subsystems to facilitate database installation and database administration activities. These scripts are designed to be accessible from both the command line and the ECS Assist installation tools. The scripts follow a standard naming convention across each subsystem consisting of a prefix , of the format $EcXXXX$, identifying the subsystem component and a root identifying the primary database command or purpose performed by the script. For example a script to define login IDs used by the IOS advertising server would be called EcIoAdDbLogin.

A description of each of the suggested standard scripts is given Table 4.11.5-1. Details about the applicable scripts for each subsystem may be found in the appropriate subsystem-specific 311 documentation.

Table 4.11.5-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (1 of 2)

Operating Function	Command	Description	When and Why to Use
Add Login	DbLogin	Add existing system login to the SQL server.	Use when installing an ECS custom application to add the pre-defined set of Unix logins used by the application to the appropriate SQL server.
Add User	DbUser	Add user ID to a database	Use when installing an ECS custom application to add the pre-defined set of User IDs used by the application to the appropriate database.
Create Database	DbBuild	Build a new empty database and load with initial start-up data.	Use when installing an upgraded Release/drop or an ECS custom application into a mode where there is no existing data that needs to be retained.
Upgrade Database	DbPatch	Upgrade tables to new schema while retaining existing data.	Use when installing an upgraded Release/Drop of an ECS custom application into a mode containing existing data that needs to be retained.
Drop objects	DbDrop	Remove all database objects (tables, triggers, stored procedures, domains, rules, user-defined data types) from a database.	Should not be used independently by the Operator. Used by DbBuild script during installation to remove obsolete objects from the database.

Operating Function	Command	Description	When and Why to Use
Backup database	DbDump	Create a backup file for the database.	Use to create a backup of the database that can be used in the event of database corruption or disk failure.
Restore database	DbLoad	Restore a database from a backup file.	Use to recover from database corruption or disk failure.
Update database statistics	DbStat	Updates the database statistics used by the Sybase query optimizer.	Use on a regular frequency to update database statistics to optimize query response times.
Remove ESDT	DbClean	Removes all data for a single ESDT from the database.	Use to de-install an ESDT from a subsystem database.
Purge data	DbPurge	Removes and/or archived expired data.	Use on a periodic basis to delete expired
Check install	EcDsDesc	Verifies database install	Use after running DbBuild or DbPatch to confirm that subsystem database was properly installed.

4.11.5.1   Quick Start Using Database Installation and Maintenance Scripts

The database installation and maintenance scripts are a custom developed utility and should be used only by database administration personnel.

To execute Database Installation and Maintenance Scripts from the command line prompt use:

Scriptname *<mode>   <dbo_id>   <passwd> <sqlserver> <dbname>*

Scriptname.specifies the name of the database script to be executed.

The *<mode>* parameter specifies the mode in which the database to be used is found.

The *<dbo_id>* parameter specifies the user ID of the database owner for the database to be used.

The *<passwd>* parameter specifies the password of the database owner for the database to be used..

The *<sqlserver>* parameter specifies the name of the SQL server under which the database to be used is found.

The *<dbname>* parameter specifies the name of the database to be used.

4.11.5.1.1 Invoking Database Installation and Maintenance Scripts using ECS Assist.

All scripts except EcDbDesc can be invoked using the ECS Assist installation tool using the DATABASE command button. Further information on using ECS Assist may be found elsewhere in this document.

4.11.5.3   Required Operating Environment

The Database Installation and Maintenance Scripts may be run on the SUN, SGI, or HP.

For information on the operating environment, tunable parameters and environment variables of Database Installation and Maintenance Scripts refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series .   The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

Table 4.11.5-2 identifies the supporting products this tool depends upon in order to function properly.

Table 4.11.5-2.   Support products for Database Installation and Maintenance Scripts

Interface (facility)
Sybase SQL Server

4.11.5.3.1 Interfaces and Data Types

None.

4.11.5.4   Databases

The Database Installation and Maintenance Scripts uses the DDIST, DM, INGEST, IOS, MSS, SDSRV, STMGT, or SUBSRV database as applicable. Description of each of these databases is found in the following documents:

311-CD-101-005, *Data Distribution Subsystem Database Design and Schema Specifications*

311-CD-102-005, *Data Management Subsystem Database Design and Schema Specifications*

311-CD-103-005, *Ingest Subsystem Database Design and Schema Specifications*

311-CD-104-005, *Interoperability Subsystem Database Design and Schema Specifications*

311-CD-105-005, *System Management Support Subsystem Database Design and Schema Specifications*

311-CD-106-005, *Planning and Data Processing Subsystem Database Design and Schema Specifications*

311-CD-107-005, *Science Data Server Subsystem Database Design and Schema Specifications*

311-CD-108-005, *Storage Management Subsystem Database Design and Schema Specifications*

311-CD-109-005, *Subscription Server Database Design and Schema Specifications*. The IOS Advertising database is 311-CD-104-005, *Interoperability Subsystem (IOS) Database Design and Schema Specifications.*

4.11.5.5 Special Constraints

None.

4.11.5.6 Outputs

None.

4.11.5.7 Event and Error Messages

The Database Installation and Maintenance Scripts issues error messages which are reported on the Sybase error log.

4.11.5.8 Reports

None.

4.11.6 Replication Installation and Maintenance Scripts

A set of replication scripts has been created for the MSS subsystem to facilitate installation and administration activities. These scripts are designed to be accessible from both the command line and the ECS Assist installation tools. The scripts follow a standard naming convention across each subsystem consisting of a prefix, of the format $EcXXXX$, identifying the subsystem component and a root identifying the primary command or purpose performed by the script. For example a script to define replication login IDs used by the MSS would be called EcMsRsLogin.

A description of each of the suggested standard scripts is given Table 4.11.6-1. Details about the applicable scripts may be found in the appropriate subsystem-specific 311 documentation.

Table 4.11.6-1. Common ECS Operator Functions Performed with Database Installation and Maintenance Scripts (1 of 2)

Operating Function	Command	Description	When and Why to Use
Add Login	RsLogin	Add existing system login to the SQL server.	Use when installing an ECS custom application to add the pre-defined set of Unix logins used by the application to the appropriate SQL server.
Add User	RsUser	Add user ID to a database	Use when installing an ECS custom application to add the pre-defined set of User IDs used by the application to the appropriate database.
Install Replication Objects	RsBuild	Install a new copy of scripts and replication objects necessary for database replication.	Use when installing an upgraded Release/drop or an ECS custom application into a mode where there is no existing data that needs to be retained.
Upgrade Replication Objects	RsPatch	Installs replicate database patch wrapper, or modifications to existing replication objects.	Use when installing an upgraded Release/Drop of an ECS custom application into a mode containing existing data that needs to be retained.
Replicate MSS Databases	RsMsDb	Create a backup file for the database.	Use to create a backup of the database that can be used in the event of database corruption or disk failure.

4.11.6.1 Quick Start Using Replication Installation and Maintenance Scripts

The database replication installation and maintenance scripts are a custom developed utility and should be used only by database administration personnel.

4.11.6.2 Replication and Maintenance Script User Interface

To execute database replication installation and maintenance scripts from the command line prompt use:

>Scriptname *<mode>*

Where:
Scriptname.specifies the name of the database script to be executed.

<mode> specifies the mode in which the databases to be used are found, e.g. OPS, TS1.

4.11.6.2.1 Invoking Database Installation and Maintenance Scripts using ECS Assist.

(TBS)

4.11.6.3 Required Operating Environment

The Replication Installation and Maintenance Scripts may be run on the SUN.

For information on the operating environment, tunable parameters and environment variables of Database Installation and Maintenance Scripts refer to the 920-TDx-013 "Custom Code Configuration Parameters" documentation series . The "x" refers to the installed location, e.g. 920-TDG-013 is for GSFC DAAC.

Table 4.11.6-2 identifies the supporting products this tool depends upon in order to function properly.

Table 4.11.6-2. Support products for Database Installation and Maintenance Scripts

Interface (facility)
Sybase SQL Server
rs_subcmp (Sybase Replication Server utility)

4.11.6.3.1 Interfaces and Data Types

None

4.11.6.4 Databases

The Replication Installation and Maintenance Scripts use the MSS database as applicable. Description of this database is found in the following documents:

311-CD-105-005, *System Management Support Subsystem Database Design and Schema Specifications*

4.11.6.5 Special Constraints

None

4.11.6.6 Outputs

None

4.11.6.7 Event and Error Messages

The Replication Installation and Maintenance Scripts issues error messages which are reported to the script's error log.

4.11.6.8 Reports

None

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